DOCUMENT RESUME

ED 093 422 JC 740 235

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TITLE	Transfers from Junior to Senior Colleges. Final Report. Revised August 1974.
INSTITUTION	American Council on Education, Washington, D.C. Office of Research.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.; National Science Foundation, Washington, D.C. RANN Program.
PUB DATE	74
GRANT	NE-G-00-3-0350
NOTE	147p.; Appendix B not included due to marginal legibility but is available from the authors
EDRS PRICE	MF-$0.75 HC-$6.60 PLUS POSTAGE
DESCRIPTORS	*Academic Achievement; Data Analysis; *Enrollment Trends; *Junior Colleges; Longitudinal Studies; Student Characteristics; *Transfer Students

ABSTRACT

This study, based on national longitudinal data, was conducted to examine factors associated with: (1) transfer from 2- to 4-year colleges, and (2) positive and negative outcomes at the 4-year colleges. Analyses were based on data collected by the American Council on Education in its initial and followup surveys of the 1968 freshman class. This study is based only on full-time enrollees; since nearly half of junior college enrollments are part time, these findings apply to only half the junior college population. Findings are presented in two parts: (1) transfer to the upper division--comparisons of transfers with nontransfers and factors related to transfer; and (2) receiving institutions and the baccalaureate performance of transfer students --institutional characteristics, transfer performance, relation between baccalaureate attainment and institutional characteristics, and factors related to completion. (KM)

ED 093422

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FINAL REPORT

TRANSFERS FROM JUNIOR TO SENIOR COLLEGES

NATIONAL INSTITUTE OF EDUCATION PROJECT NO. 3-0350

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AMERICAN COUNCIL ON EDUCATION

WASHINGTON, D. C.

1974

JC 740 235

The research reported herein was performed pursuant to a grant contract with the National Institute of Education, U.S. Department of Health, Education, and Welfare, Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgement in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official National Institute of Education position or policy.

ACKNOWLEDGEMENTS

These analyses were performed under Grant No. 3-0350 from the National Institute of Education. The data were previously collected by the American Council on Education (ACE) as part of the Cooperative Institutional Research Program (CIRP) established and directed by Alexander W. Astin. The 1972 followup survey was conducted through a grant to ACE from the National Science Foundation's program of Research Applied to National Needs (Grant GI-34394).

We are grateful to several persons who made invaluable contributions to the completion of this study. Marsha D. Brown, who will direct future CIRP followup studies from UCLA, provided expert counsel on multivariate techniques and supervised the computer programming alongside Barbara A. Toner and Marilyn Hernwall. Irene L. Gomberg helped in setting up tables and recalculating many of the figures in this report. Laura P. Kent edited the entire manuscript with her usual competency. We owe her special thanks. Ida E. Green, who worked long hours typing several versions of this manuscript with speed and precision, also has our gratitude.

Finally, we wish to thank several colleagues, both at the ACE and outside, who read and commented on this manuscript.

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Chapter I

Introduction

One of the most significant trends in higher education during the past decade has been the growth of two-year colleges as a mechanism for expanding educational opportunity. While four-year colleges and universities have become more selective, costly, and homogeneous in their student populations, the educational system has come to depend increasingly on two-year colleges to accommodate greater numbers of persons of various ages, ethnic groups, socioeconomic backgrounds, and academic records. This trend has resulted in increased enrollments in two-year colleges, from 25 percent of all college entrants in 1966 to 41 percent in 1973 (Astin, Panos, and Creager,1966; Astin et al., 1973). It has also resulted in an increase in the proportion of four-year college students who are transfers from junior colleges; although the exact numbers are hard to come by, one estimate is that such transfers now constitute as many as one-fourth of all four-year college admissions in the United States (Willingham, 1972). Unweighted data from 624 senior institutions showed a total of 209,368 transfer students in 1970 of which 55 percent were from two-year colleges (Sundeen and Goodale, 1972).

Despite the large increase in transfer admissions, little is known about the transfer pool: Who they are, why they transfer, and how they fare in the four-year college. Precise nationwide data on even the most basic questions, such as the proportion of two-year college entrants who transfer to the upper division, have simply not existed. Moreover, the most comprehensive study of transfer to date, by Knoell and Medsker (1965), was published nearly a decade ago.

Following the Knoell-Medsker study, educators have devoted increased

attention to articulation in the transfer process. Articulation, a key term in the vocabulary of transfer issues, has been defined as

> a procedure that should provide a continuous, smooth flow of students from grade to grade and school to school...interrelationships among the various levels and segments of an educational system as well as among off-campus quasi educational institutions and activities (Kintzer, 1973 p.1)

Efforts to improve articulation between the junior college and the upper division have resulted in the publication of guidelines for articulation on a state level (e.g., Guidelines for Articulation for Receiving Institutions by the Massachusetts State Transfer Articulation Committee), as well as on a national level (notably, the landmark Guidelines for Improving Articulation Between Junior and Senior College by the Joint Committee on Junior and Senior Colleges).

Just as articulation concerns the progress of students in both two- and four-year colleges, so research aimed at understanding student outcomes in this process should, ideally, cover both two- and four-year college years. A few studies have provided us with some information on various phases of the transfer process, including the differences between entrants into two- and four-year institutions, between junior college entrants who select occupational curricula and those who select transfer curricula, and between transfers and natives. Until now, no national study of transfers has covered the period from college entry to graduation.

Objectives

The present study was undertaken to fill some of the many gaps in our knowledge of the transfer process, by using national longitudinal data to examine factors associated with (a) transfer from two- to four-year college and

(b) positive and negative outcomes at the four-year college. In addition to providing some basic data on the transfer and nontransfer populations, the study was designed to address the following questions relating to the transition from a two- to a four-year college.

- What are the personal characteristics and precollege experiences which differentiate transfers and nontransfers? The transfer process theoretically serves an important social function as a mechanism for affording persons of various personal and educational backgrounds a chance at a bachelor's degree, but the 1960 transfer students studied by Knoell and Medsker were as homogeneous as the native four-year college populations; although they came from lower socioeconomic backgrounds, they were, for the most part, young white Protestants (Knoell and Medsker, 1965). Are the students who transferred a decade after the Knoell-Medsker cohort a more heterogeneous group? In 1960, women were underrepresented among transfers although their grades were higher than those of men. Is this pattern still apparent?
- What characteristics of public and private two-year institutions are associated with the outcome of transferring? Is transferring primarily a function of student input, or are there institutional factors which predict transfer independent of the personal characteristics and backgrounds of the students?
- What personal and institutional characteristics are associated with nontransfer among two-year college students who initially aspired to a bachelor's degree in their freshman year? Is failure to fulfill this goal associated with poor academic performance, or is it

associated with other factors such as socioeconomic status?

- o Conversely, what factors are associated with transferring from a two- to four-year college by students who initially did not plan to seek a bachelor's degree? In particular, do institutional characteristics exert any influence on this change?
- o What personal and institutional factors are associated with successful outcomes in the four-year college such as receiving the bachelor's degree? In particular, what characteristics of the college predict positive outcomes, independent of student characteristics?
- o What is the role of various sources of financing for college on transfer outcomes?

Because of the obvious need for immediate information, we based the analyses on data that had already been collected by the American Council on Education in its initial and followup surveys of the 1968 freshman class. The data cannot answer all questions relating to transfer, and the shortcomings, where they exist, will be pointed out in the discussion of findings. Eventually, a nationwide followup study should be designed specifically to address questions which cannot be answered here.

The present study is based only on the population who enrolled in two-year colleges in 1968 as first-time, full-time students. It should be pointed out that nearly half of junior college enrollments are part-time (American Association of Community and Junior Colleges, 1973); further, the factors associated with transfer may differ for part-time and for full-time students. Therefore, the

findings of this study apply only to half the junior college population.

Moreover, in addition to transfer from two- to four-year colleges, other forms of transfer need to be examined. These include: transfer between two-year colleges, between four-year colleges, and from four- to two-year colleges.

Two-Year Colleges and Their Students

Although severe student shortages are currently being reported by many colleges and universities in the United States (U.S. News and World Report, September, 1973), two-year college enrollments are continuing to expand. Between 1972 and 1973, enrollments increased by 3.2 percent at universities, by only 0.5 percent in four-year colleges, but by 9.2 percent in two-year colleges (The Chronicle of Higher Education, January 14, 1974). ACE data also show that the slight increase in the total number of first-time, full-time freshmen in postsecondary institutions between 1972 and 1973 was attributable almost entirely to two-year college enrollments (Staff of the Office of Research, 1972; Astin et al., 1973). Total two-year college enrollments, including part-time and return students, were 2,680,762 in 1971 and are projected to exceed five million by 1981 (Connor, 1972).

The Growth of Two-Year Colleges

The growth of two-year colleges as a major force in postsecondary education gained tremendous momentum in the 1960s after a slow beginning. During the decade, the number of community colleges nearly doubled (from 656 to 1,100) and enrollments tripled (Medsker and Tillary, 1971).

Throughout this period, public and private institutions developed different goals, clientele, and enrollment patterns. The burgeoning expansion of public community colleges has far outshadowed the growth of the largely traditional,

small private junior colleges. In 1921-22, private institutions accounted for two-thirds of the 207 junior colleges and nearly half of the enrollments (Medsker and Tillary, 1971). In 1971, the 239 private junior colleges enrolled just 136,861 students compared with 2,543,901 in the 872 public colleges (Connor, 1972).

Profile of Students

The role of the public junior college in providing educational access to diverse segments of the population who might not otherwise have attended college--students who are older, less able, or less affluent--has been amply documented. Cross (1967) found that, among bright students from low socioeconomic backgrounds, the proportion who received postsecondary education was 53 percent in communities served by public two-year colleges, compared with just 22 percent in communities without such institutions. The Cross study supports the earlier findings of Koos (1944) and Bashaw (1965). A study of high school graduates in California found that more than half the graduates did not meet entrance requirements in the state colleges, and thus the only public education available was at the junior college level (Liaison Committee, 1957).

Later studies also document the democratizing effects of junior colleges. Bushnell and Zagaris (1972) found evidence that students from lower socio-economic backgrounds were able to pursue higher education because of the availability of a community college education. In a national study comparing students, graduates, and faculty of four types of public two-year institutions (branch campuses, junior colleges, technical institutes, and vocational-technical centers), Godfrey and Holmstrom (1970) found that, although the two-year college track record was spotty with respect to the representation of minority and inner-city

students, these colleges clearly served as a vehicle of upward mobility for the white lower-middle class, for persons from rural and small town backgrounds, for persons seeking further education on a part-time basis, and for women with family responsibilities.

In their socioeconomic status, ability, and the influence of other persons on educational plans, junior college enrollees fall somewhere between four-year college entrants and those who do not attend college, according to data from a variety of sources (Cross, 1968). National data collected by the American Council on Education from full-time freshmen in 1968 and 1973 reveal similar differences between entrants into two-and four-year institutions (Table 1, presented at end of text). As shown in this table, and as emphasized by Medsker (1960), although differences exist in expected directions, there is considerable overlap between the students of the various types of postsecondary institutions.

As shown in this table, and as emphasized by Medsker (1960), although differences exist in expected directions, there is considerable overlap between the students of the various types of postsecondary institutions.

As expected, among both cohorts, freshmen who entered two-year colleges were older, received lower high school grades, and came from lower socioeconomic backgrounds than those who entered four-year institutions. These differences are particularly accentuated when entrants into public junior colleges are compared with the freshmen at four-year institutions. The profile of private junior college freshmen places them between their public college counterparts and freshmen at four-year institutions; their grades were more similar to those of the public junior college freshmen in that their high school records were low compared with the grades of freshmen who entered baccalaureate programs.

It appears that two-year colleges are becoming an attractive alternative to senior colleges for average or better achievers and middle income groups, while not abandoning their function of serving low-income students. The proportion of two-year college freshmen with high school grades of C or less was 30 percent in 1968 but just 17.5 percent in 1973 (Creager, et al., 1968; Astin, et al., 1973). Moreover, in spite of the growth in enrollments, the total number who reported C or lower grades was smaller in 1973. Among first-time, full-time freshmen at two-year colleges in 1973, proportionately fewer were low-income students. However, the number of students from families with incomes of less than $10,000 increased from 259,765 in 1968 to 349,509 in 1973.

The 1973 findings demonstrate the use of community colleges by local residents: Only 15.1 percent of public junior college freshmen (compared with the majority of other freshmen) attended a college over 50 miles from their homes. Moreover, one-fourth of this group cited the chance to live at home as a very important reason for selecting their college (compared with less than 10 percent of other freshmen). Low tuition was another very important factor in the decision of large proportions of public college freshmen in both cohorts to attend a particular college (37.7 percent in 1968 and 40 percent in 1973). In response to a question about their reasons for attending a two-year college, similar proportions of two-year college students in the Godfrey-Holmstrom (1970) study stated that they could not afford a four-year college. In view of the relatively small difference in student costs of private two-year and four-year colleges, (National Commission, 1973) it is not surprising that low tuition was not very important to freshmen in private two-year colleges; only 12.2 percent and 9.4 percent, respectively, in 1968 and 1973, gave this response.

As seen in Table 1, the vast majority of two-year college students (69.8 percent in 1968 and 75.7 percent in 1973) aspired to a bachelor's or higher

degree. Other studies (Trent and Ruyle, 1965; Cross, 1968; Godfrey and Holmstrom, 1970) have also shown that junior college students have high aspirations. Although actual transfer rates have not previously been explored, scholars agree that such high aspirations are unrealistic for many students (Knoell and Medsker, 1965; Monroe, 1972). Thus, an important function of the junior college has been to help students to discover and define realistic educational objectives, a process described by Clark (1960) as "cooling-out." Godfrey and Holmstrom (1970) found that two-year colleges were performing their function of an institutional buffer for at least 10 percent of their students, making the transition to the four-year college easier. Many students, however, were proud of their two-year college as an institution in its own right and did not consider it as a junior version of a traditional college.

Students in Transfer and Terminal Curricula Areas

One of the principal objectives of the present report is to ascertain who pursues education beyond the junior college and why. Although comparative data on transfer and nontransfer students are conspicuously lacking, some indication of possible differences can be gained from the few comparisons of students who selected occupational curricula and those who selected transfer curricula at the junior college. The significance of these findings may be drawn as much from the absence of major or consistent differences as from the differences that do appear. Studies cited by Medsker (1960) showed that students in transfer curricula had slightly higher aptitudes than those in terminal curricula; and that the two groups of women differed more in ability than did the two groups of men. However, Medsker demonstrated that curricula which attracted highly able transfer students also attracted highly able terminal students. Munday (1968) found only slight and sometimes conflicting differences in the high school grades and achievement test scores of students entering transfer and terminal curricula. More recently, Brue and others (1971) reported similarly conflicting

or inconclusive findings on academic aptitude and grades; men who selected transfer curricula had higher scores on aptitude tests but lower college grades than those who selected occupational curricula, and the differences between the two groups of women were slight. The study found that although the men in the two groups differed significantly in socioeconomic background, vocational interests, and self-ratings, the women transfer and terminal students were much alike.

Although the differences between transfer and terminal students may be slight, we approached the present study with the expectation that the factors affecting actual transfer, as opposed to nontransfer, are not random and that, as in other aspects of educational development, there are systematic patterns to be discovered. With the variables available to us from the 1968-1972 longitudinal data, we have attempted to discern patterns associated with transfer to the upper division and, further, with the different outcomes of transfer students, using multivariate techniques. The data base and methods of analysis are described in the following chapter.

Chapter II

Methodology

The data used in these analyses were collected by the American Council on Education (ACE) as part of the Cooperative Institutional Research Program (CIRP) established and directed by Alexander W. Astin. Through this program, each year since 1966, ACE has collected questionnaire data on the personal background, precollege experiences, and educational and career goals from freshman classes at over 300 institutions of higher education in the United States. Large samples of these same students have been followed up during later years in order to assess student progress and the institution's impact on this progress. Although several ACE longitudinal files contained data relevant to transfer, the data have not been previously analyzed with transfer issues in mind.

Of the possible data sources, we decided to use the 1968-1972 longitudinal file for several reasons. First, the file contained a particularly rich data base of information gathered at the beginning of the freshman year (1968) and four years later (1972). Second, transfer students could be identified by their responses to a question on the followup form which asked specifically of those who ever enrolled in junior colleges: "Did you ever transfer to a four-year college?" Finally, since the 1972 survey was the most recent followup study conducted by ACE, the file was subjected to the most elaborate sets of weights. New weights were applied to the entire file in a procedure that took several months in 1973.

Sampling and Weighting Procedures

The sampling universe for the 1968 freshman survey comprised all institutions

of higher education listed in the 1967 Education Directory (USOE, 1967) that were functioning that year with an entering class of at least 30 entering freshmen. Institutions were sampled on the basis of a 35-cell stratification design (see Appendix A) to represent all U.S. institutions meeting these criteria. A total of 67 two-year institutions, (46 public and 21 private) were included in the sample. See Creager et al. (1968) for a detailed description of sampling procedures and Astin and Molm (1972) for a detailed description of weighting procedures.

In 1972, followup questionnaires were mailed to a probability sample of one out of four original participants. The responses to the 1972 followup survey were linked to the 1968 freshman data, and the entire file was carefully weighted to correct for nonresponse biases and to approximate student population parameters. Several sets of weights were applied to correct for nonresponse to the 1972 followup survey, to adjust the followup sample to match all freshman respondents in the 1968 file, and to adjust for disproportionate sampling of institutions within the 35-cell stratification design (Please see Appendix A for a detailed description of stratification design and weighting procedures).

Data Analysis

Two subfiles were created from the 1968-1972 longitudinal file for the analyses. The first, File A, includes all junior college entrants (weighted N = 380,605) and was used to analyze factors associated with transferring or nontransferring to the upper division. The second, File B, includes students who transferred to four-year institutions (weighted N = 197,600) and was the basis for analyzing factors associated with different outcomes of transfer students. Table 2 presents the weighted and unweighted number of cases used in

in the study.

This study was designed with the objective of discovering the possible effects of certain educational outcomes of both personal factors (e.g., personal characteristics, family background, high school experiences and achievements, and plans and goals) and institutional factors (e.g., control, size, affluence). Stepwise multiple regression analysis was chosen as the primary method of analysis because it enables us to isolate predictors of these outcomes, ascertaining simultaneously the independent contributions of possibly interrelated variables.

Prior to formulating the specifications for the regression analyses, we examined some basic cross-tabulations of the longitudinal data in order to become familiar with the parameters and to formulate meaningful hypotheses regarding the relationships among variables to be examined through multivariate techniques. These cross-tabulations delineate differences between transfers and nontransfers and, subsequently, between transfers who did and did not receive the baccalaureate within four years.

From our examination of this descriptive data, we selected a number of independent variables for regression analyses of (a) transfer to four-year colleges among all two-year college students, and (b) baccalaureate completion within four years after college entry among those students who had transferred to four-year colleges or universities. Our selection of independent variables was based on two major criteria. The first was based on the relationship an independent variable had with the dependent variable. For instance, we found from cross-tabulations that certain variables appeared to have a nonlinear relationship to certain outcomes; unless it was valid to recode these variables as

dichotomous variables, they were excluded from the analyses. Second, no variable was considered for inclusion unless a meaningful relationship to the dependent variable could be hypothesized.

The regression analyses were performed according to a modified version of the methodology developed by Alexander W. Astin for studying the interrelationships between student input, institutional environment, college experiences, and student outcomes (See Astin 1970a and 1970b). By this method, independent variables were entered into regression in a specified order. When longitudinal data are used in predicting an outcome, an observed relationship between a late-occurring phenomenon and a particular outcome may be influenced by factors from earlier in the student's life. For example, a relationship between plans to transfer to a four-year college and to receive a bachelor's degree may be largely attributable to differences in socioeconomic background. Therefore, sets of variables were entered into the regression equation in temporal sequence.

We were more concerned with obtaining significant and useful information than with the total amount of variance we might explain. In some instances, we excluded variables with obvious relation that would be expected to explain a large portion of the variance without contributing to our understanding of the outcome in question. For example, in analyzing predictors of bachelor's degree attainment of transfer students, we excluded degree plans (which bear an obvious relation) in order to examine the possible influence of other factors that might correlate very highly both with degree plans and with achievements.

Chapter III describes and compares the characteristics of transfer students and of terminal students. The differential impact of two-year colleges on their students' transfer plans and behavior are examined. Further, the factors related

to transfer are isolated and discussed. Chapter IV examines transfer students' performance in senior institutions and attempts to isolate factors related to successful completion of the baccalaureate within four years after college entry. Chapter V presents a summary and discussion of the whole study. Tables follow Chapter V. Appendix A describes the stratification design used in the study, and Appendix B presents means, standard deviations, and zero-order correlations used in the multiple regression analyses employed in the study.

Chapter III

Transfer to the Upper Division

Of students who entered junior colleges on a first-time, full-time basis in 1968, slightly more than half (51.9 percent) had transferred to a four-year college or university by 1972 (Table 3). This high figure is not surprising. As far back as the early 1950s, Medsker (1960) found that one-third of the regular day-students at 63 junior colleges transferred to the upper division within a four-year period, and there is evidence of recent growth in the number of transfers in general (Peterson, 1972).

Other patterns of transfer, by sex and institutional control, are consistent with the early Medsker findings; in both the 1952 and 1968 cohorts, larger proportions of men than of women and of private college than of public college enrollees transferred within a four-year period. In the 1968 cohort, 55.7 percent of the men (134,281) and 45.3 percent of the women (63,309) transferred. The higher transfer rate at private institutions was especially evident among women: 62.7 percent of the women at private colleges, compared with just 41.8 percent of the women at public colleges. Only one out of six students, however, matriculated at private junior colleges and, therefore, they do not carry much weight in the total two-year college population.

Because proportionately more men than women transferred, and because more men than women enrolled in junior college in the first place, men constituted 68 percent of the transfer population (Table 4). This figure is similar to that reported by Knoell and Medsker (1965); among the 1960 transfers, 71.4 percent were men. Moreover, men from public two-year colleges alone accounted for 60.1 percent of the transfers.

Comparisons of Transfers and Nontransfers

In their study of men and women who transferred from two- to four-year colleges in 1960, Knoell and Medsker observed a remarkable homogeneity between transfers and natives at the receiving institution. In the following sections, transfers and nontransfers in the 1968 junior college freshman class are compared with each other as well as with the national population of 1968 freshmen entering all types of postsecondary institutions in the United States. Our findings suggest that, in spite of recent attention to the expansion of educational opportunity to atypical or "new" students (Cross, 1971; Ashby, 1971; The Carnegie Commission, 1970), those who transfer are still more likely than those who do not transfer to resemble the national college norm. This tendency is observed in comparisons of transfers and nontransfers on many demographic characteristics, as well as on high school achievement and on activities and aspirations at the time of college entry. Nevertheless, it will be seen that the differences between transfers and nontransfers are not always clear-cut; in some instances, the characteristics of both groups diverge sharply from the national norm, which is heavily weighted toward freshmen in baccalaureate programs.

Demographic Characteristics

Table 5 compares transfers with nontransfers, as well as with freshmen who entered all types of institutions in 1968, with respect to demographic characteristics: age, race, place of residence during the growing years, and socioeconomic background indicators. Table 6 shows the percentage of students within each category of these characteristics who had transferred to the upper division by 1972.

The typical American freshman is 18 years of age and white, as were both transfers and nontransfers in the cohort; both groups did, however, contain

larger proportions of students over 18 years of age than the norm of 19.9 percent. Nontransfers as a group were a little older than transfers: 36.3 percent were over 18 at the time of college entry, compared with 30.8 percent of the transfers. From these descriptive tables, age appears to be an important factor for women junior college students but relatively unimportant for men: only 20.9 percent of the women who entered college at age 20 or older transferred to a four-year institution by 1972, compared with 48.4 percent of those who were under 20 (Table 6). Among men, on the other hand, 59.3 percent of the older group and 54.8 percent of the younger group transferred.

Minority groups were underrepresented among transfer students: 89.1 percent of the transfers and 84.5 percent of the nontransfers were white. The transfer rates for the racial groups differed considerably; the highest were among Orientals (62.6 percent) and the lowest among American Indians (29.4 percent). But these findings with respect to race are not very reliable since they are based on a small absolute number and represent a small proportion of the entire junior college population.

Junior colleges drew large proportions of students from urban settings. These urban young people had the highest rate of transfer, whereas students from small towns had the lowest rates. The difference was particularly great among men: Nearly three-quarters of the men from large cities transferred, compared with just 44.3 percent from small towns. Thus the transfer population differed considerably from the norm with respect to the environment in which they grew up: 23 percent were from large cities, compared with 14.3 percent at all institutions, and 14.9 percent were from small towns, compared with 20.0 percent at all institutions. They may have differed also as a group from the students in the particular institutions in which they enrolled. Junior college

students tended to transfer to public institutions which according to the 1968 national norms (Creager et al., 1968) were more likely than private institutions to attract students from small towns and less likely to attract large-city youths.

As was seen earlier in Chapter I, junior college students come from lower socioeconomic backgrounds than freshmen at four-year institutions, and those junior college students from the lowest socioeconomic backgrounds appear to be the least likely to select transfer curricula. Table 5 shows that those who transferred were more likely than were nontransfers to have college-educated parents with high incomes, although the differences are not substantial. Whereas the father's education differentiated transfers and nontransfers of both sexes, the mother's education was, apparently, an important factor only in the case of women students. Further, women who transferred had much better-educated parents than did men who transferred. Among men, 22.8 percent of the transfers and 21.8 percent of the nontransfers had college-educated mothers; the corresponding figures for women were 35.9 percent of transfers and 23.5 percent of nontransfers. Women whose parents were college graduates had particularly high transfer rates: 62.1 percent whose fathers had completed college and 69.2 percent whose mothers received a bachelor's or higher degree. Women whose parents were not college graduates had much lower transfer rates.

It is well known from sociological studies that working-class parents value education for their sons more than for their daughters and such values may have

an impact on the transfer group, many of whom are from relatively low socio-economic backgrounds. Another factor that differentiates women transfers and nontransfers but not men transfers and nontransfers and that may reflect cultural bias is the national origin of the father. About one in ten junior college women had foreign-born fathers, and of those only 36.9 percent transferred, compared with 46.3 percent of women with native-born fathers.

On the other hand, the student whose parents' income was relatively low and whose father was a laborer or a semiskilled worker was less likely than others to transfer, regardless of sex. It is evident that the relationships between socioeconomic status and transfer are complex, and various aspects cannot alone be considered explanatory.

Financial Considerations

Evidence from several studies indicates that many students selected junior colleges because of the low cost (Cross, 1968; Godfrey and Holmstrom, 1970). Table 7 shows that more transfers than nontransfers gave this reason as a major factor in the choice of their freshman-year institution. The difference between transfers and nontransfers was greater among men than among women: among men, 41.5 percent of the transfers and 30.3 percent of the nontransfers reported that low tuition was a major influence on their choice of college. Moreover, 63.6 percent of men who named this factor as a major concern transferred. Transfers of both sexes also were slightly more likely than nontransfers to express concern about financing their freshman year. Thus, although transfers as a whole came from slightly more affluent families than nontransfers, financial considerations were

important to a larger proportion of the students in the transfer group.

Looking at the specific sources of financing freshman year in college, we find slight differences between transfers and nontransfers. Both groups relied much more on personal savings than did the average U.S. freshman. Among men, slightly more transfers than nontransfers (52 percent vs. 48.8 percent) said that their own savings were a major source of support; among women, on the other hand, slightly fewer transfers than nontransfers (28.3 percent vs. 30.7 percent) gave this response. Junior college students, in general, were unlikely to have scholarships, grants, or loans. However, 56.9 percent of the scholarship recipients transferred, compared with just 45.9 percent of those with loans (Table 7). Because the proportions with these sources were low, it was not feasible to test with regression analysis how scholarships and loans were related to transferring. The explanation may be simply that scholarship holders were better students and consequently more likely to be accepted at four-year institutions.

High School Achievement and Activities

As expected, transfers reported much higher high school grade averages than did nontransfers: 26.1 percent averaged B+ or better, compared with only 9 percent of nontransfers (Table 9). From these tables, grades seem to be more strongly associated with transfer for men than for women. As seen in Table 10, 71.5 percent of the men with B+ or better high school grades transferred, compared with just 48.8 percent of those with C+ or lower grades. As is the case with almost any college student population, the men had poorer high school records than their women classmates. Among men, 52.8 percent of the transfers and 69.7 percent of the nontransfers reported C+ or lower grades; among women, similar grades were reported by only 28.5 percent of transfers and 35.5 percent of nontransfers. The

findings with respect to academic standing in high school are consistent with the findings on grades. Moreover, transfers thought more highly of the academic standards of their high school than did nontransfers.

We also examined some of the high school activities of transfers and nontransfers to discover possible differences in work habits, intellectual inclination, and the influence of significant others (Table 9). Transfers of both sexes were more likely than nontransfers to have discussed their future with their parents, argued with a teacher in class, and read poetry not connected with a course. Other activities that differentiated the two groups of men (but not of women) were checking out a book or journal from the school library and discussing politics. Women students in general--whether transfers or nontransfers--reported more conscientious work habits in high school than did men and had a greater inclination to seek parental counsel.

Plans and Aspirations at the Time of College Entry

As has been pointed out, a principal conclusion of research on junior college students is that, when they enter college, they often have unrealistically high educational goals. Medsker (1960) found that the number of 1952 entrants who planned to transfer was twice the number who actually did transfer by 1956. The "cooling-out" process and the revision of educational objectives may account for part of this discrepancy (Clark, 1960). Further, many prospective transfer students are quite often rejected by four-year colleges; Willingham and Findikyan (1969) reported that in fall 1966, 24 percent of transfer applicants from two-year colleges were not admitted to four-year colleges. Therefore, it is not surprising to find that as many as 56.5 percent of the nontransfers had aspired to a bachelor's degree in 1968 (Table 11). The vast majority (81.3 percent) of

those who actually did transfer hoped to graduate with a baccalaureate.

Because women had lower aspirations than men, there were fewer discrepancies between their plans and their outcomes. Nearly two-thirds of the men nontransfers had planned to get a bachelor's degree compared with 45.1 percent of the women nontransfers. On the other hand, men were also more likely than women to upgrade their aspirations; of those who had no baccalaureate plans when they entered college in 1968, 40.1 percent of the men but just 21.2 percent of the women transferred to a four-year institution.

That the freshman-year plans of junior college students lack clarity is further apparent in the inconsistency between their degree plans and their perception of the likelihood that they will transfer to another institution (Table 11). Only 25.1 percent of transfers and 11.2 percent of nontransfers indicated in 1968 that there was a "good" chance that they would transfer. Half the transfers of both sexes perceived "very little" or "no" chance that they would transfer.

Undoubtedly, the curriculum selected in the freshman year would influence the educational outcomes of junior college students since certain curricula, particularly in technical fields, are terminal programs. Medsker (1960) found that liberal arts ranked high on the list of curricula studied by transfer students and low on the list of curricula selected by terminal students. The more recent (1970) Godfrey-Holmstrom study provides further evidence of the relationship between students' major fields and their educational progress. Two groups of junior college students were studied: Students who were enrolled at two-year colleges at the time of survey (1969) and students who had graduated from two-year colleges in 1967. Among all students enrolled in junior colleges in 1969, only 30 percent majored in liberal arts fields, but over 40 percent of the 1967

graduates majored in liberal arts. Although the findings do not relate directly to transfer, they indicate that liberal arts students are more likely than others to persist in junior colleges.

The transfers' freshman-year plans as to probable major fields were much closer than were those of nontransfers to the national norms for all institutions. However, different fields were associated with transfer for the two sexes. Women who planned to major in liberal arts fields or education were much more likely to transfer than those who planned to major in business or allied health and preprofessional fields. Among women transfers, 43.7 percent majored in liberal arts fields (including 21.1 percent in arts and humanities, 18.2 percent in social sciences, 2.9 percent in physical sciences and math, and 1.5 percent in biological sciences) and 21.1 percent in education; the transfer rates for women with liberal arts or education majors were 61.3 percent and 63.6 percent, respectively (Table 10). Business, engineering, and technical fields were the predominant choice of men junior college freshmen. Men with freshman-year plans to major in business were more likely to transfer than those who planned to major in engineering or technical fields. The high transfer rates for men who planned business majors (65.7 percent) and the low transfer rates for women who planned business majors (23.6 percent) can be accounted for in part by the diversity of fields of study that are classified as "business." Thus, men were probably planning to concentrate in business administration or accounting, whereas many women pursued secretarial studies.

The diverse major plans of transfers and nontransfers were paralleled by their career aspirations in 1968 (Table 11). Teaching was the predominant choice of women who transferred (38.9 percent); only 17.7 percent of the nontransfers

planned to teach. Among men, business careers were the choice of 25.2 percent of the transfers and fewer (17.2 percent) nontransfers.

On the freshman questionnaire, the students were asked to indicate the importance they gave to various life objectives. The responses provide some insight into the differing motivations of transfers and nontransfers. Transfers were distinguished by having relatively high professional and financial aspirations. More transfers than nontransfers (37.1 percent vs. 27.8 percent) rated "essential" or "very important" the life goal of "obtaining recognition from colleagues for contributions in my special field." In this respect, the transfers resembled the average freshman. However, more transfers (50.1 percent) gave high priority to financial well-being than did either nontransfers (40 percent) or freshmen at all institutions (40.8 percent).

Activities During the First Year of College

From the previous comparisons, it is evident that, although differences exist, transfers and nontransfers are generally alike in their personal background and goals. It should be remembered, for example, that of the nontransfer group, 45.7 percent reported parental incomes of $10,000 or above, 54.6 percent had a B- or better high school average, and 56.5 percent planned in 1968 to receive a bachelor's degree.

While many of these background factors, in combination, might explain much of the dynamics of transfer, it seems logical that experiences in junior college also influence the outcome of transferring. In the 1972 followup survey, most of the questionnaire items on college experiences related to the entire collegiate period, and therefore, it was not possible to separate two- and four-year college experiences. Fortunately, two questions elicited important information

that could be linked to the junior college period. We know--for the first year in college--where the students lived and, in addition, their schedules of work and study.

Table 13 indicates that place of residence may be more important to women than to men as a factor relating to transfer. For both sexes, particularly women, more transfers than nontransfers lived with their parents or in a dormitory. Among women, 72 percent of the transfers and 62.9 percent of the nontransfers lived with their parents; 20.2 percent of transfers and 16.3 percent of nontransfers lived in a college dormitory.

Transfers were more likely than were nontransfers to attend college full-time. Although the freshman sample included only students who entered on a full-time basis, 20 percent of the nontransfers and just 10 percent of the transfers were studying part-time by the end of the freshman year or were not in school. Being employed while studying on a full-time basis apparently did not negatively influence students' chances of transferring to a four-year college. On the contrary, more women transfers than nontransfers were employed during the first college year: Although 94 percent were full-time students, 29.7 percent were employed off-campus and 13 percent were employed on campus.

Characteristics of the Junior College

The environment of an institution of higher education reflects to a large extent the personal characteristics and background of the students it enrolls. Nevertheless, studies of college impact find that, after student input is taken into account, different types of institutions facilitate different educational outcomes (Astin and Panos, 1969). The descriptive tabulations in Tables 14-18 compare transfers and nontransfers in various types of institutions. They indicate

the kinds of institutions from which students are more likely to transfer, though student input has not been controlled. The subsequent regression analyses were designed to isolate the institutional characteristics associated with transfer, independent of the personal characteristics and backgrounds of students.

We previously observed that the transfer rates for those enrolled at public and private two-year colleges were similar for men but not for women; among men, 55.6 percent at public colleges and 56.5 percent at private colleges transferred; among women, a larger proportion of those enrolled in private than in public colleges transferred, 62.7 percent and 41.8 percent, respectively (Table 3). Tables 14 and 15 further show differences between the sexes. Among men, transfers tended more than nontransfers to have enrolled in institutions that were relatively large and less affluent and that enrolled relatively many part-time students. Among women, the opposite was true; they were much more likely to transfer from small institutions and slightly more likely to transfer from affluent colleges and those with a large percentage of full-time students. Most of these relations were true for men and women at both public and private colleges. Another sex difference was that women were more likely to transfer from single-sex institutions, but men were not. Because the proportions enrolled in single-sex institutions were very small, however, further analyses of this relation were not undertaken.

Some evidence of the interrelationships among institutional environment and student input appears in Table 16, which compares transfers and nontransfers from public and private institutions on selected personal characteristics. Earlier findings (Table 5) indicated that transfers were slightly younger at the time of college entry than nontransfers. This age difference was greatest among women at public institutions. Father's education differentiated transfers and nontransfers

among both sexes at public institutions but only among women at private institutions. Two factors, high school grades and degree plans, cut across all four types of institutions: While the differences between transfers and nontransfers vary at the four types, it is nevertheless apparent that students with relatively good high school grade records and those who planned to receive a baccalaureate in 1968 were more likely than others to transfer, regardless of the type of junior college they entered.

Factors Related to Transfer

On the basis of these descriptive tabulations, we selected 27 independent variables for analyses designed to isolate the determinants of transferring from two- to four-year institutions. The zero-order correlations between these 27 independent variables and transfer are shown in Table 17. These correlations--phi coefficients ϕ for dichotomous variables and point biserial correlations rpb for continuous ones--show the relationship of each variable to transfer without controlling for the influence of other variables.

Two general points are apparent from this table. First, although each of the 27 variables has a logical relation to transferring, few correlations are significant at the .01 level of stringency. Second, even fewer correlations are significant for both sexes; in fact, the patterns of relations are quite different for men and women.

Five variables correlated with transfer for both sexes, all positively. They were: having planned in 1968 to receive a bachelor's degree, making good high school grades, discussing politics frequently, living in a dormitory during the first college year, and attending a private two-year college. With respect to

sex differences, freshman plans to get a bachelor's degree were more closely associated with transferring by women, whereas high school achievement was more closely associated with transferring by men. Transfer correlated significantly among women with mother's educational attainment, plans to major in liberal arts, percentage of students at the junior college enrolled full-time, and attendance at a small junior college. Men who had taken books from the library relatively often were more likely than others to transfer, but those who attended relatively affluent colleges were less likely to transfer.

To ascertain the independent contribution of each variable to the prediction of the transfer outcome, we performed stepwise multiple regression analyses in which the 27 variables were entered into the regression equation in five steps according to their temporal sequence.

Personal background variables were forced into the equation first, followed by activities in high school, freshman plans and goals, experiences during the first year of college, and, finally, characteristics of the junior college. These institutional variables were entered last in order to isolate the possible influence of the institution above and beyond student input and first-year experiences.

The evidence of both the cross-tabulations and the zero-order correlations indicates that the determinants of transferring differ for men and for women. Therefore, the analyses were carried out first for the total group of junior college entrants in 1968 (N = 4,724) and then separately for men (N = 2,407) and for women (N = 2,317). All variables were entered into each equation. As expected, the equations obtained for men and for women were very different. We applied an F test to determine whether the b weights for the independent variables in the first equation were significantly different for men and women.

Using the formula $F = \dfrac{\text{residual SS}_{\text{total}} - \text{residual SS}_1 - \text{residual SS}_2}{\dfrac{\text{residual df}_{\text{total}} - \text{residual df}_1 - \text{residual df}_2}{\dfrac{\text{residual SS}_1 + \text{residual SS}_2}{\text{residual df}_1 + \text{residual df}_2}}}$

(Snedecor and Cochran, 1967, p. 432), we obtained an F of 2.98, which is significant at the .01 level. This finding indicates that separate analyses for each sex were warranted.

Additional analyses with transfer as the dependent variable were performed in order to address one of the objectives of the study, to ascertain factors associated with nontypical patterns. In particular, we sought some insight as to the personal and environmental factors associated with transfer by those who had not, as freshmen, planned to obtain the baccalaureate (prospective nontransfers), as well as with nontransfer among those who had initially planned to obtain the baccalaureate (prospective transfers). Six regressions, using the same 27 independent variables in the identical five-step sequence, were performed for the following subgroups: all prospective transfers (N = 3,393), men (N = 1,830), and women (N = 1,563) in this group; and all prospective nontransfers (N = 1,331), men (N = 577), and women (N = 754) in this group. Comparing the regression equations for these six groups, we found differences significant at the .01 level between b weights obtained for prospective transfers and nontransfers (F = 2.66), between men and women prospective transfers (F = 2.29), and between men and women prospective nontransfers (F = 5.82). Therefore, the findings for all six subgroups are shown separately.

Summary tables with b weights follow the text. Appendix B contains detailed tables showing the standard error of b's, beta weights, and F

ratios for all equations obtained, as well as means, standard deviations, and correlation matrices for all nine subgroups.

A brief explanation of the statistics in these tables may be helpful. The figures under the column b are unstandardized regression coefficients for the slope of each regression line. The beta weights are the standardized regression coefficient ($b = \text{beta} \times \frac{s_{\text{dependent variable}}}{s_{\text{independent variable}}}$). The F ratios are tests of significance of the size of the beta weights; they measure the unique contribution of a particular independent variable in the equation to the prediction of an outcome--or, in more technical terms, to the reduction of the total sum of squares in the dependent variable. The tables also show the results of t tests of differences between two groups on b weights for single independent variables ($t = \frac{b_1 - b_2}{\sqrt{(Seb_1)^2 + (Seb_2)^2}}$). The t statistics are shown partly to caution the reader that, although a beta weight may be significant for one group and not for the other, the groups may not differ significantly from each other on the unstandardized b weights for that particular variable.

One further note of caution should be sounded. While the findings offer some useful insights into the factors associated with transfer, we have just begun to explain this phenomenon. The diversity of the junior college population and the lack of sharp differences between transfers and nontransfers--at least, on the variables available to us in this study--means that we were unable to account for more than a small proportion of the variance. The reader will note that the multiple R's shown at the bottom of every table are very low and tell us that the process of becoming a transfer student is either random to a great extent or else dependent on circumstances about which we have no information.

Men and Women

We have seen, thus far, a large number of sex differences among junior college students. Of principal importance, women came to college with much better high school records and much lower educational aspirations than did men. Women also were less likely than men to transfer; 55.7 percent of the men but only 45.3 percent of the women transferred by 1972. Even when all other variables were controlled, women were significantly less likely than men to transfer (see Appendix B, Table 1).

The results of the analyses of predictors of transfer among men and women are shown in Table 18. The 27 variables produced multiple R's of .38 for men and .45 for women, accounting for just 14 percent and 20 percent of the variance, respectively. Moreover, few relationships were significant at the .01 level. Notably, no socioeconomic factors contributed significantly to predicting transfer. The two variables that carried the greatest weight for both sexes were "planned bachelor's degree in 1968" and "high school grades." High school grade average was a more effective predictor for men than for women ($t = 2.79$); the difference of a full grade (e.g., from C to B) raised the probability of transferring by 16 percent for men and by 9 percent for women. Plans to transfer, on the other hand, were more important for women than for men ($t = 3.93$); controlling for all other factors, planning a bachelor's degree at college entry raised the probability of transferring by 34 percent for women and 22 percent for men. That ability and scholarly interest is closely related to transferring is further supported by the finding that, after grades were controlled, the activity of taking books out of the school library "frequently" (vs. "not at all") increased the likelihood of transfer by 10 percent for men, while this activity made no difference for women.

The apparent failure of women to upgrade their educational plans may result

partly from the curricula typically chosen by women. Liberal arts are most obviously compatible with a four-year program; outside the liberal arts field, relatively large proportions of men majored in business administration, whereas more women entered distinctly terminal programs, such as allied health and secretarial studies. Consequently, majoring in liberal arts was a significant predictor for women.

A student's residence during the first college years emerged as an important dimension. Living in a dormitory was a positive predictor of transfer for both sexes: With all other variables controlled, living in a dormitory raised the probability of transfer by 20 percent for men and 16 percent for women. This finding supports the impressive array of data from studies of other student populations (e.g., Astin, 1973) that dormitory living promotes educational progress. Evidently, the continuous contact with other students encourages positive educational outcomes.

In addition, living with one's parents was a significant predictor for women, raising the probability of transferring by 11 percent. Most of the remaining women indicated that they lived "off campus." We may surmise that many of them were married, since 20 percent of the nontransfer women dropped out of college at some point due to marriage.

Two institutional characteristics predicted transfer for men: private control and low affluence (defined as per-student expenditures for educational and general purposes). Whereas the negative relation of affluence to transferring was significant at each step in this regression, the effect of attending a private institution became significant only with all other institutional variables controlled.

Plans and Outcomes

The regression analyses performed separately for those who did and did not, at college entry, plan to get the bachelor's degree, i.e., prospective transfers and prospective nontransfers, are far from conclusive, as the low multiple R's (.26 and .31, respectively) indicate. But the findings in Table 19 offer some clues. Different factors predict transfer for the two groups. Prospective transfers were most likely to carry out their freshman-year plans if they were high achievers in high school. Although we do not know the grades that these students made during the college years, the evidence of high relation between high school and college grades (Astin, 1969) justifies the conclusion that those who failed to transfer as planned did so in large because of poor academic records in two-year colleges.

Three factors relating to the junior college experience also predicted transfer among the prospective transfer group. Once again, dormitory living facilitated transfer and institutional affluence was a deterrent. In addition, persons who combined work and study were more likely to transfer, although the relation was not particularly strong. The student who bears such a double load may be particularly strongly motivated to complete college studies.

As seen in Table 20, high school grades and dormitory living were important predictors of transfer among both men and women prospective transfers. However, the negative influence of affluent institutions was apparent only among men.

Among those who did not initially plan to get a bachelor's degree, high school grades and affluence were relatively unimportant in the upgrading of their degree plans, (Table 19). As the descriptive findings suggested, women prospective nontransfers were less likely than men to raise their aspirations. Those women who

planned to major in the liberal arts and who lived in a dormitory were more likely to transfer.

Two principal differences between men and women who did not plan on a bachelor's degree are indicated in Table 21. Borrowing books "frequently" from the library--a sign of a motivation to learn--predicted transfer for men but not for women. High parental income was also slightly more important for men than for women ($p = .05$).

Summary of Regression Findings

While the information available to us from this study only partially explains the phenomenon of transfer from two- to four-year colleges, it does provide some valuable insights. Background factors, about which we know a good deal, are less important determinants than experiences at the junior college, about which we know considerably less.

This finding is significant for policy, for it suggests that junior college freshmen are malleable. Of the background factors, high school grades were almost the only predictor of transfer. (This variable was our only indicator of ability since many 1968 junior college freshmen had not taken SAT exams.) Grades were an important determinant for both sexes, but expecially for men; they predicted transfer among those who had initially planned to receive a bachelor's degree, but other factors were more important for those who initially sought less than a bachelor's.

In only one instance did a socioeconomic indicator predict transfer--among students, particularly men, who had not aspired to the bachelor's degree. Moreover, the impact of expected sources of financing was negligible.

The best predictor of transfer from the battery at our disposal was planning to obtain a bachelor's degree. Women, in particular, were unlikely to transfer if they had not initially aspired to the baccalaureate. Consequently, sex was one

of the best predictors in that women were less likely to transfer than were men. This relative inflexibility of women in upgrading their aspirations may be due, at least in part, to the different nonliberal arts curricula selected by men and women. Women without bachelor's degree plans were unlikely to transfer if their planned major in 1968 was other than liberal arts. This relation did not hold true among men. Large proportions of men transferred from a variety of fields, but few women with plans for majors other than liberal arts or education transferred.

With respect to the college-year influences, the most notable finding is the consistency with which dormitory living promoted transfer. Dormitory living, was not only correlated positively with transfer but also continued to be associated with this outcome even after background characteristics, high school experiences, and plans and goals were controlled for. Moreover, living in a dormitory contributed significantly to predicting transfer among all nine subgroups. Thus, the dormitory environment had a supportive effect on men and women and on those who did and did not plan to transfer.

In the next chapter, we will describe the characteristics of the institutions to which students transferred and compare transfer students who received their baccalaureate with those who did not. In addition, the factors related to baccalaureate attainment are studied.

Chapter IV

Receiving Institutions and the Baccalaureate Performance of Transfer Students

In a 1969 study of 146 institutions of higher education, closely representative of all four-year accredited institutions on both a regional and a national basis, Willingham and Findikyan concluded that the junior college model was working well with respect to transfer admissions and that junior college transfers were being accepted at all types of institutions. Although many were being absorbed by large public institutions, the authors believed that this concentration did not represent undue restriction in that transfer students were well spread among public institutions at all levels of affluence. However, institutional policies and practices varied widely, particularly at the regional level (Willingham and Findikyan, 1969).

The Willingham and Findikyan study presented representative national data on the movement of transfers but not on what happens to students after they transfer: That is, how do transfer students perform in different receiving institutions? This chapter addresses the following questions: What are the characteristics of receiving institutions? Do students from public and from private two-year colleges transfer to different types of institutions? Do men and women transfer to different types of institutions? Finally, what characteristics of receiving institutions are related to the transfer student's completion of the bachelor's degree?

Characteristics of Receiving Institutions

The institutional data for this section are derived from the ACE institutional

research files. (See Creager and Sell, 1969, for a description of these files.) About 97 percent of the transfer students who had entered junior colleges in 1968 indicated that their most recent or current institution at the time of the 1972 followup survey was one on which the ACE research files already contained data. Other students either did not respond to this question or cited a foreign, proprietary, or other type of institution on which no information was available. The institutional variables selected for this study were level (university, four-year college, two-year college) control (public, private), size (the total, full-time and resident undergraduate enrollment), selectivity (the median scores of the institution's entering freshmen on the ACT, NMSQT, and the SAT composites), regions (Northeast, Southeast, Midwest, West-Southwest), and annual tuition paid by out-of-state students. Table 22 shows the proportion of transfer students in the study (by control of the sending institution, and by sex) in receiving institutions on which we had no information. Information was available for about four out of five transfer students on four of the six variables and for nearly all (96.7 percent) of the transfer students on two variables. The following section is based on students for whom data about the receiving institution were available.

Regions of Receiving Institutions

Willingham and Findikyan (1969) found that opportunities to transfer were severely limited in the Northeast: Public institutions enrolled no more transfers than did private institutions, and affluent institutions enrolled very few transfers. In our study, however, the Southeast had the fewest transfers (10.9 percent), followed by the Northeast (22.8 percent); 26.8 percent transferred to schools in the Midwest, while West-Southwest institutions received the highest

proportion of transfers (39.6 percent). Larger proportions of students from private two-year colleges transferred to institutions in the Northeast and Southeast, while the West-Southwest received nearly half the students transferring from public two-year colleges. Sex distribution was slightly different in two regions: Proportionately more men transferred to the Midwest, and more women transferred to the Southeast (Table 23).

Level and Control of Receiving Institutions

Checking transfer students' current or most recent institutions as indicated on the 1972 followup, with those listed in the ACE institutional research files we find that the dominant movement from two-year colleges was to four-year colleges and not to universities. Information was not available on the receiving institutions of 17.2 percent of the transfer students; 71.4 percent of the remaining students, however, had transferred to a four-year college, 23 percent to a university, and about 5 percent to another two-year college. This last group had possibly transferred back to a two-year college after trying their luck at a four-year institution or had moved to a "branch" campus coded as a two-year college in our files. In view of the increasing mobility of students it is not surprising that 5 percent of the two-year college students returned to a two-year college after first transferring to a four-year institution; Godfrey and Holmstrom (1970) also found a certain degree of reverse transfer among two-year college students.

Students from private two-year colleges were more likely to transfer to a university than were students from public two-year colleges. Basically, the sexes differed little in this respect, although men were slightly more likely to transfer to four-year colleges than were women (Table 24).

As Willingham and Findikyan found, public colleges received the bulk of the transfer students (81.4 percent), but this relation varied by control of sending institution (Table 25). That is, the student who comes from a private two-year college was more likely to transfer to a private institution. For instance, only 14.8 percent of transfers from public two-year colleges, but 39.6 percent of those from private two-year colleges, transferred to private colleges. Of those transferring from private two-year colleges to four-year colleges, only 55.7 percent went to public four-year colleges, as compared with 83.5 percent of those from public two-year colleges (Table 26).

These findings are not surprising in view of the articulation problems involved with private colleges and universities. A recent study of 59 four-year Potomac and Chesapeake ACAC institutions--conducted to determine institutional willingness to admit a specified number of applicants from a particular two-year college--found that while public colleges usually did not restrict such admissions, private colleges often had a quota on the number of transfers they would accept (Shook, 1972). The findings reported here suggest that these restrictions are somewhat loosened for transfers from private two-year colleges. Further, this discriminatory treatment cannot be fully explained by the private transfer students' having higher academic ability: Though this was true for men, the reverse was true for women. Of the transfers, 23.9 percent of the men from public two-year colleges and 36.1 percent of the men from private two-year colleges made B or better high school grade averages, as compared with 41.1 percent of the women from public two-year colleges and 39.7 percent of the women from private ones. Yet the likelihood of a woman's transferring to a private university or four-year college was higher if she had initially attended a pri-

vate two-year college.

Size and Selectivity of Receiving Institutions

Transfer students, particularly those from public two-year colleges, tended to transfer to large and highly selective institutions. For instance, 70.3 percent of the students from public two-year colleges, but 58 percent of those from private two-year colleges, transferred to an institution with a total, full-time resident enrollment of 5,000 or above (Table 27). Three-fifths of the transfers from public two-year colleges, but only 53.8 percent of those from private two-year colleges, enrolled in an institution with a selectivity score of 105 (the median selectivity level for all institutions) or above (Table 28). Although women were more likely than men to transfer from small junior colleges, they were slightly more likely to transfer to large four-year colleges.

Tuition

Over three-fifths of the students transferred to institutions where the annual out-of-state tuition was $800 or lower. Transfers from private two-year colleges and men were slightly more likely to go to more expensive institutions than were transfers from public two-year colleges and women (Table 29).

Baccalaureate Performance of Transfer Students

Paralleling the unprecedented expansion of two-year colleges in the last decades, the research literature on the academic performance of transfer students has grown enormously. But, with the notable exception of the Knoell and Medsker (1965) study comparing the performance of transfer and of native students in ten states, most of the research has been restricted to single disciplines or to single institutions or to a small cluster. The importance of the ACE data

lies in its generalizability to the national scene.

Three major themes emerge from this research literature. First, students of equal ability perform equally well whether they are transfer or native students. (Martorana and Williams, 1954; Knoell and Medsker, 1965.) Second, two-year college students usually experience "transfer shock," resulting in a fractional drop in grade-point average during the first term in upper division; the student recovers, however, in succeeding terms (Hills, 1965). Third, student performance varies at different receiving institutions as well as between junior colleges and the same receiving institutions due to differences in articulation procedures (Willingham, 1972; Kintzer, 1973).

Perhaps the most controversial of these three themes is that of transfer shock and recovery, a theory that has been challenged by a number of researchers. For instance, in a study of 926 first-time juniors at Florida State University, Nickens (1972) surmised that transfer shock was common among students transferring from other schools and that perhaps the differences between transfers from two-year colleges and others were related to grading practices. In a study of junior college transfers and other transfers to the University of Missouri-Columbia, Mann (1969) also suggested that the differences between two groups reflect institutional grading practices and seriously questioned whether junior college transfers suffered significantly more from transfer shock than did other transfers.

1972 Fall Status of Transfer Students

Our data indicate that, whether or not two-year college transfers experienced transfer shock, they made good progress toward the baccalaureate. Within four years after entering a two-year college, a full two-fifths had received their baccalaureates, while nearly three-fifths had received an associate's degree

(Table 30). About three-fifths of all transfer students were still enrolled in school in 1972: 38.4 percent in an undergraduate college, 7.8 percent in graduate school, and 5 percent in a night school.

Adjusting the number of transfer students still in school to reflect the number of transfer students with the bachelor's degree, we see that a full 75.8 percent of the transfer students without bachelor's degrees were still in school, working toward their degrees. Only one in four had dropped out completely and was working full-time.

The persistence rates of men were higher than those of women: 81.9 percent of the men transfers but 65.3 percent of the women transfers without the bachelor's degree were still in college. A great majority (about 84 percent) were enrolled full-time. Even if only half the transfer students who were enrolled in college in 1972 receive their bachelor's degree by 1973 (five years after college entry) their baccalaureate completion rates will be impressive: 63.3 percent of the total group, 64.8 percent of the men and 60.8 percent of the women. Knoell and Medsker (1965) found that, after three full calendar years following transfer, 62 percent of the junior college students had been granted the baccalaureate.

Knoell and Medsker (1965) reported that 41 percent of the men and 60 percent of the women in their study received the baccalaureate within two years after transfer. Part of this sex difference was attributable to differences in major fields; by the end of the third year, when a number of men finished a five-year program in engineering, the sex difference was considerably reduced. The authors estimated that at least 75 percent of the transfers eventually receive their degrees.

Since we do not know when the students in our study transferred, we cannot

talk about their degree performance in terms of years spent at the four-year institution. But we do know what degrees they received between college entry in 1966 and the time of the followup survey in 1972. Thus, the following discussion is restricted to that time span and provides only limited comparisons to the findings discussed by Knoell and Medsker.

With these caveats in mind, it is interesting that our results fail to show the initial sex difference in baccalaureate attainment reported by Knoell and Medsker (1965). In our study, 40.3 percent of the men and 41.9 percent of the women transfer students received the bachelor's degree within four years after college entry. The base used to calculate degree attainment rates includes 11.6 percent of the men and 8.8 percent of the women who did not answer this question on the 1972 followup survey and whom we assumed to have no degrees. Even when we excluded these students from our calculations, however, no significant sex difference emerged: The proportions with bachelor's degrees increased slightly to 45.6 percent for men and 45.9 percent for women.

As was pointed out, about 5 percent of the two-year college transfer students were enrolled in two-year colleges at the time of the 1972 followup survey and may either have transferred back to a two-year college or been enrolled in branch campuses; some of which were coded as two-year institutions in our files. Since 6.6 percent of the students enrolled in two-year colleges in 1972 reported having received the baccalaureate, the latter possibility receives some support.

The finding that the similar proportions of men and women had received the baccalaureate is rather puzzling. Women students generally not only perform better but also more frequently attain the bachelor's degree within the minimal time after college entry. Astin and Panos (1969) reported, for instance,

that among first-time, full-time freshmen entering the nation's colleges in 1961, 61.7 percent of the women but 49.3 percent of the men received the bachelor's degree within four years. Among low-income students entering the nation's colleges for the first time in 1967, consistently higher proportions of women than men received the bachelor's degree by 1971 (Holmstrom, 1973). A 10 percent random sample of 1968 freshmen entering four-year institutions revealed the same pattern favoring women: 64.3 percent of the women but 51.3 percent of the men, received the bachelor's degree by 1972 (Table 31). Thus, although transfer students in general did slightly worse than native students, women transfer students appeared to perform under a handicap not experienced by men transfers. Moreover, although men who transferred from public two-year colleges did just as well as those from private two-year colleges (40.1 percent from public and 41.8 percent from private two-year colleges received the bachelor's degree in four years after college entry), women transferring from private two-year colleges had a distinct advantage: Over half (53.6 percent) of the women from private two-year colleges, but only 38.3 percent of those from public two-year colleges, received the bachelor's degree within four years after college entry. This finding is particularly baffling in that, as mentioned earlier, women transferring from private two-year colleges generally had lower high school grade averages than did those transferring from public two-year colleges.

Is it possible that more women than men transferred without completing two years of junior college and therefore needed longer to complete the baccalaureate requirements in the senior college? Although we do not have information about

when students transferred to a four-year institution, this explanation does not really seem plausible: More women than men transfers (62.5 percent and 56.8 percent, respectively) claimed to have earned an associate or equivalent degree at a junior college--and there are no differences between those in public and those in private two-year colleges. Thus, we can assume that more women than men had transferred after two years in a junior college and that women should have a slight advantage in baccalaureate completion after four years.

Further, looking at the study field majors, we also find women in what appears to be a more advantageous position (Table32). Proportionately more men than women were in programs associated with degree delays: for instance, 12.5 percent of the men, but only .2 percent of the women majored in engineering, a field which, according to Knoell and Medsker (1965) delays the student's progress in the four-year college by at least one full term because of course and credit requirements. Two out of five women transfers were in liberal arts programs, but their degree performance was very similar to that of the 28.6 percent of the men who majored in liberal arts. One out of five women transfers were in education and their bachelor's degree completion rate was higher than that for the men in the field (who were, however, fewer). Finally, women majoring in business did very poorly in comparison with men, one in three of whom were majoring in business. This lack of an expected sex difference in overall degree completion rates will be further explored in the section discussing the results of a stepwise multiple regression analysis, run to predict degree performance.

Relation Between Baccalaureate Attainment and Characteristics of Receiving Institutions

The performance of transfer students differs according to the type

of receiving institution in which they enroll, as shown in Table 33. For instance, transferring to a four-year college is more conducive to early degree completion than transferring to a university: 45.8 percent of transfers in four-year colleges, but only 36.3 percent of those in universities, received the bachelor's degree in four years. Native students also do less well in universities, where 50.6 percent--as compared with 61.5 percent of those in four-year colleges--received the bachelor's degree in four years after college entry. Transfers to private four-year colleges did slightly better than transfers to public colleges (44.4 percent and 40.7 percent, respectively); however, only 18 percent of transfers enrolled in private four-year institutions.

There were also marked regional variations in the baccalaureate attainment rates of transfers. Those in the West-Southwest did least well with only 28.7 percent obtaining the bachelor's degree by 1972, whereas those in the Northeast did best with 43.7 percent getting the bachelor's degree in this time. Although the transfer process may be easier in the West-Southwest and more difficult in the Northeast (see p. 39), the outcome was definitely more favorable for students transferring to institutions in the Northeast rather than to those in the West-Southwest.

Large size and high selectivity both had a negative impact on degree completion of transfer students. Only 32.9 percent of transfers in institutions with full-time resident enrollments of 5,000 or above, but 42.9 percent of those in smaller institutions, received the bachelor's degree by 1972. Similarly, 40.2 percent of transfers in institutions of low selectivity (average ability score less than 105), but 36.4 percent of those in institutions of higher selectivity, obtained the bachelor's degree within four years.

Finding that transfer students in large institutions tended to earn lower grades than those in smaller institutions, Knoell and Medsker (1965) suggested that, in large public institutions, less value is given to instruction and more to research and publication. Thus, the transfer students, who may need help adjusting to the impersonal grading system, fare badly until they adjust to it. Moreover, they suggested, transfer students, unless very able themselves, do not do well in highly selective institutions, where the quality of native students is superior. Our data indicate that a large and impersonal environment or a highly selective and competitive one does, indeed, slow down the transfer student.

Our findings clearly indicate that transferring tends to delay baccalaureate completion: Nearly three out of five native students, but only two out of five transfer students, received the bachelor's degree within four years after college entry. The two-year college transfers were more likely to attain the baccalaureate within this time period if they attended four-year colleges rather than universities, small and unselective institutions, private rather than public colleges or universities, and institutions in the Northeast. Those who transferred to institutions in the West-Southwest appeared to fare worse than other students.

In contrast to earlier findings, men and women transfer students in our study performed equally well in senior institutions within the normal time required for baccalaureate completion. This finding was particularly puzzling in view of the women transfers' better high school academic records. Stepwise multiple regression analyses were run to further explore the relation between degree completion and the characteristics of transfer students, their two-year college experiences, and the types of institutions to which they transferred.

Factors Related to Completion of the Baccalaureate

The basic stepwise multiple regression analysis employed throughout this study was described in Chapter II. Here we were interested in determining which factors after transfer were related to baccalaureate attainment within four years. Two sets of factors were isolated: First, the characteristics of the receiving institution, such as control and size, which were found to have an impact on the transfer student's performance in the four-year college; second, a set of variables describing "within-college experiences" (i.e., four-year college experiences which varied for students within the same institution, such as their academic performance, their sources of finance, and their major fields), which also may have facilitated or delayed degree completion. Two separate analyses were run. In the first, we wanted to determine which senior college experiences were related to baccalaureate attainment; in this case, differences in student input, in characteristics of the two-year college initially attended, and in characteristics of the senior institutions to which students had transferred were controlled for. In the second, we wanted to determine which characteristics of senior colleges were related to degree completion; in this case, differences in student input, in characteristics of the two-year college initially attended, and in senior college experiences were controlled for. Table 34 lists the variables used and indicates, for each of the two sets of analyses, the sequence in which they were forced into the regression equation.

In both of the analyses, the variables in the final step were permitted to enter freely with an F value set at the .001 level of significance (i.e., $F = 10.83$). This stringent F value was used because of the large number of cases ($N = 2,643$) and of independent variables (46) involved. All the regression

analyses were run on unweighted data. Appendix B describes in detail the variables used, as well as the means, standard deviations, and zero-order correlations obtained in each analysis.

One final word about these regression analyses. Because of our rigorousness both in setting a high F value for inclusion of free-entry variables and in choosing variables, the resultant multiple correlations were small, explaining only about 17 percent of the variance. We could, for instance, have added freshman degree plans as a predictor of degree completion and--because of the high correlation between these two variables--the multiple correlation would have been increased. But the inclusion of this variable would not have added to our knowledge. Similarly, in an earlier analysis run at the planning stage, about 10 percent of the variance in degree completion was explained by a variable that identified those students who had supported themselves by taking a leave of absence from school for one or more terms to work full time. But even though it would be interesting to know who these students are, the inclusion of such a variable would tell us nothing new about degree completion since students taking off a term or two would almost certainly be delayed in receiving their degrees.

Table 35 presents the results of the first multiple regression analysis. An R of .40 was obtained, explaining about 16 percent of the variance. Most of this was accounted for by one variable: overall college grade-point average, which is such a strong predictor of degree completion that a full grade difference raises the probability of baccalaureate completion by 42 percent. Many researchers have reported that the transfer student's grade average in junior college is the best predictor of his/her senior college performance (Siemens, 1943; Beals, 1971; Burke, 1973). Because our measure was based on a question from the 1972 followup

survey asking the student to indicate his/her overall college grade-point average, this finding is slightly ambiguous. But discussions with colleagues who have worked with the ACE data to some extent convinced us that, in spite of the item instructions, transfer students probably gave their most recent grade-point averages (i.e., those obtained in the four-year college), and, thus, this variable may well have reflected their accomplishments in the senior rather than the junior college.

After controlling for differences in background variables (e.g., sex, socioeconomic background, high school performance), we find that students transferring from large two-year colleges were less likely to receive the baccalaureate within four years after college entry than were students who had transferred from small two-year colleges.

When two-year college characteristics (e.g., size, control) were forced into the regression equation, it turned out that students who had transferred to four-year institutions in the West-Southwest were less likely to complete their baccalaureate than were students who had transferred to college in other regions. Finally, transfer students who had majored in education and those who had received considerable financial aid from their parents were more likely than others to receive the baccalaureate within four years after college entry.

When background variables were forced into the regression equation, and after differences in age, socioeconomic background, and high school academic performance were controlled for--sex emerged as a significant predictor of degree completion: Women were more likely than men to attain the baccalaureate by about 9 percentage points. However, when two- and four-year college characteristics entered the regression equation, the advantage of being a woman was reduced to about 6 percent, and after college grade-point average entered the equation, the beta weight for

sex became very small, yielding an insignificant F value. Thus, it seems that a man and a woman of equal ability, coming from the same type of junior college and transferring to the same type of receiving institution, are equally likely to receive the bachelor's degree, even before one considers the progress rates of students in different majors. Knoell and Medsker (1965) found that women progressed more rapidly toward the baccalaureate than did men during the two years after transfer because of the study fields in which they majored. Our study suggests that if the authors had controlled for differences in academic ability and in aspects of the college environment, the impact attributed to major field would have been smaller.

The findings of the second set of multiple regression analyses are presented in Table 36. An R of .42 was obtained, explaining about 17 percent of the variance. College grade-point average was again the strongest predictor of degree completion. In addition, students transferring from large two-year colleges were again less likely to receive their baccalaureate, whereas students majoring in education or receiving substantial aid from their parents were more likely to receive the degree. After differences in experiences in the four-year institutions (such as academic performance as measured by grade-point averages, major field, and sources of financing the college years) were controlled for, none of the senior college characteristics entered the regression equation at a significance level of .001. This finding is noteworthy in that, when institutional characteristics were forced into the regression before senior college experiences were allowed to enter freely, the variable "transferring to an institution in the West-Southwest" emerged as a negative predictor of baccalaureate completion. It would appear that, given two students of equal academic ability, whose majors are similar and

who finance their education in similar ways, the student who transfers to an institution in the West-Southwest is no longer at a disadvantage: That is, differences in student input and in within-college experiences are more important than regional differences. Institutions in different regions do differ, however, in their acceptance of transfer credits for different majors and in their provision of financial aid to transfer students. The problems created by such regional differences have been documented by other researchers (Knoell and Medsker, 1965; Willingham and Findikyan, 1969; Willingham, 1972; and Kintzer, 1973).

Some evidence suggests not only that there are regional differences in the availability of scholarships and other aid to transfer students, but also that transfer students seldom receive scholarships. To test this suggestion, we looked at the responses of students to an item on the 1972 followup survey asking students to indicate the extent to which they financed their education from each of a list of possible sources of support. It is reasonable to assume that transfer students will answer this question according to their most recent experiences rather than their experiences during their junior college years. Over half the women transfers (56.4 percent) but only 38.9 percent of the men transfers received major support from their parents or relatives (Table 37). At least three out of ten transfer students relied on employment during the academic year or summer employment. Just over one in ten depended on savings, while another one in ten had government loans. Fellowships and scholarships were a major source of support to very few transfer students, but the degree completion rates of those who reported such financial aid were relatively high.

A cursory look at zero-order correlations indicated some regional differences: location of the institution in the West-Southwest was negatively related to hold-

ing a state scholarship, (r = -.14), whereas a Northeast location was positively related to reliance on scholarship aid (r = .19). It is apparent that, after such regional differences are accounted for, students with similar ability performed equally well in all regions.

We would like to point out that although we did not find a very strong relationship between baccalaureate attainment and institutional characteristics after controlling for differences in student background and ability, it is highly probable that other factors related to senior college experience, such as the amount of academic counseling received or interaction with faculty, may prove to be crucial.

Chapter V

Summary and Conclusions

In their relatively short history, the two-year colleges--particularly the community colleges--have served a vital and increasingly important social function: that of extending opportunities to high school graduates. In addition, they have opened educational doors to many persons who, for financial, academic, and other reasons, did not previously have access to postsecondary education. Because of their proximity, their multiplicity of program offerings, and (in the case of two-year public institutions) their low cost, two-year colleges have claimed increasingly larger proportions of the young people attending institutions of higher education.

For many years, the two-year college was treated as a lesser version of the traditional four-year institution, designed to ease student flow from high school to the baccalaureate institution. Indeed, today the transfer function of the two-year colleges remains one of the major issues in higher education, involving nearly one out of four students. In recent years, however, two-year colleges have come into their own, acting as a distributing agency between the secondary school and various social institutions. Two-year colleges (and, again, particularly the community colleges) play a valuable and necessary role in providing occupational training, adult and continuing education programs, and remedial services to many persons beyond the secondary level.

This investigation has focused on the transfer function of two-year colleges, using as its unit of study the student. We have traced the development of a cohort of first-time, full-time freshmen from the time of their entry into two-year colleges in 1968 to baccalaureate attainment by 1972. The study is limited

insofar as, by dealing with full-time students only, its findings apply to about half of the two-year college population.

Transfer vs. Nontransfer

Even though many of the students who enroll in two-year colleges are not traditionally enrolled at four-year institutions, the average first-time, full-time freshman entering a two-year college in 1968 bore a remarkable resemblance to his counterpart entering a four-year institution: he was male, 18 years old, white, and urban raised. The two-year college population did, however, contain larger proportions of older students, students from low socioeconomic backgrounds, and students with poor high school records.

In the period 1968-1972, slightly over half of the two-year college entrants (substantially more of the men than of the women) had transferred at some point to a four-year college. During the same period, about one in twenty had returned to a two-year college. Of the transfer group, a full two-fifths had obtained the baccalaureate by 1972. Moreover, if half of those who reported that they were still enrolled in college in 1972 were to obtain the baccalaureate by 1973--a conservative estimate--then over three-fifths of all transfers from two-year colleges will have received a bachelor's degree within five years after college entry: a good track record, considering some of the disadvantages imposed on transfer students by the educational system.

It is less clear that the transfer process is working for atypical students: that it is extending to large numbers of the disadvantaged, the adult learner, the academically inferior an opportunity to attain the baccalaureate. Again, it should be remembered that the study examined only that half of the junior college population that enrolled full-time. It is likely that the part-time population included a major proportion of these atypical students.

The two-year college students most likely to transfer turned out to be those who most closely resembled freshmen at baccalaureate institutions in their family backgrounds, high school achievements, and freshman-year aspirations. Transfer was more common among men, younger students, those from urban backgrounds, those from affluent homes, and those with highly educated parents. Age and family background was more important among women than among men: Women who entered college after the age of 18 years and those whose parents were not college-educated, had very low transfer rates. Further, although the transfer group contained larger proportions of both men and women from large cities than did the nontransfer group, an urban background was more important for men: Nearly three-quarters of the men transfers were from large cities. However, some of the background differences between transfers and nontransfers revealed in simple crosstabulations disappeared when regression analyses were run to determine the factors related to transfer. In the nine regression analyses run, background variables other than sex and high school grade-point average rarely emerged as independently significant predictors of transfer. Men and students with superior high school grade-point average were more likely to transfer than were women and students with poor high school academic performance. What is particularly noteworthy here is that women, even though they make consistently higher grades than men at all levels of the educational system, are less likely to transfer. However, considerable numbers of women were in terminal programs which made transfer either very difficult or not necessary.

Although the socioeconomically disadvantaged student may still face barriers if he cannot prove himself academically capable through the traditional channels, it is clear that the two-year colleges do indeed encourage the flow of academically able but financially incapable students from secondary to postsecondary education. For instance, although transfers as a group came from

more affluent backgrounds than did the nontransfers, transfers were more likely to cite low cost as a major reason for attending their two-year college. Judging from their academic records, which were better than those of nontransfers, many transfers might have enrolled in a four-year college in the first place had they been able to afford one. For nontransfers, on the other hand, poor academic records must have been an overriding consideration in their choice of college since seven out of ten had high school grade averages of C+ or below.

That two-fifths of the transfers selected a junior college because of its low cost indicates that the institution is fulfilling its goal of providing a chance at the baccalaureate degree for many a student who could not have afforded to enter a four-year institution in the freshman year. Increasing tuition in the public college system, as has been recently suggested by several task forces and commissions, would simply reduce the numbers of those academically able young people whose capacity to pay is limited, even though they may not come from the lowest socioeconomic levels. Such an increase would make both two- and four-year college populations even more homogeneous than they are now and thus would counteract the whole movement toward open access.

As we have seen, academic ability, as measured by high school grade averages, was an important predictor of transfer. But it should also be pointed out that, among men transfers from public two-year colleges--a group that made up three-fifths of the transfer population--over three in four reported a high school grade average of less than B.

Previous studies, finding that junior college freshmen are often confused and uncertain about their educational and career goals have concluded that the junior college serves an important "cooling out" function whereby students sort and reassess their objectives. Our study indicates that this function is an important one in that many of the students displayed some confusion about their educational goals. At the time of college entry, four-fifths of the transfers

and nearly three-fifths of the nontransfers aspired to a baccalaureate degree, but only one-fourth and one-tenth of these groups, respectively, indicated that they planned to transfer to a baccalaureate institution.

There appears to be a complex relationship between the two-year college experience, freshman goals and aspirations and actual transfer. For instance, the regression analyses showed that planning to obtain a bachelor's degree was the best predictor of transferring for both sexes. However, women were particularly unlikely to transfer if they had not aspired to a bachelor's degree at the time of college entry. It seems likely that women enter two-year colleges with more clearly defined goals than do men. The sex difference may also reflect societal expectations regarding education for men and education for women. Men, even when their academic records are poor, are encouraged to seek higher educational attainment, whereas women with poor academic records, particularly those from low-income families, are discouraged (Cross, 1971). This interpretation is consistent with the finding that t. ability, as measured by high school grade averages, was a more important determinant of transfer for men than for women. It is also consistent with the finding that women whose parents were not college-educated or native-born had low transfer rates but that this did not hold true for men.

Another explanation for the low transfer rates of women may be the curricula they choose. Although the freshman-year plans of men who transferred represented a variety of major fields, women whose probable majors were in any field other than liberal arts or education had very low transfer rates. Planning to major in liberal arts was one of the two factors that contributed significantly to the

probability of transfer among women who had not aspired to a bachelor's degree at the time of college entry.

Both the terminal and the transfer functions of the junior college serve a valuable purpose in our society. The need for persons trained as medical technicians, engineering aides, or mechanics is just as great as the need for persons with baccalaureates and doctorates. It is, however, a basic tenet of American society that each individual should have the opportunity to develop his or her full educational potential. If, indeed, the junior college plays a major role in providing many young people with an opportunity to explore different educational programs and options before committing themselves finally to a vocational or occupational goal, then junior college curricula should be flexible enough to permit bright students to upgrade their educational objectives at a minimum cost. More specifically, our findings suggest that greater attention should be given to the underrepresentation of women in the transfer group and to the possibility that they are limiting themselves because of the curricula they select. No doubt much of this self-limitation is the result of earlier socialization processes and occupational sex-role stereotypes. Nevertheless, the attitudes of two-year college faculty members and counselors is another of possibly negative influences on women that may need examination.

Finally, one feature of the junior college environment consistently facilitated educational progress. Regardless of sex, ability, freshman degree plans, or any other student attribute, the junior college student who lives in a dormitory during the first year is significantly more likely to transfer. Clearly, a supportive collegiate environment and close contact with peers help to upgrade the educational aspirations of many a two-year college student.

Receiving Institutions

A great majority of two-year college transfers moved on to large, highly selective public four-year colleges. Those from private two-year colleges were somewhat more apt to enter universities or private institutions. Relatively few transfer students from public two-year colleges entered private four-year colleges. Although these differences may partially reflect a deliberate choice--perhaps in connection with financial considerations--there is some research evidence to suggest that private four-year institutions are often more receptive to transfer students from private two-year colleges. A major reason for the articulation ease between private institutions is, of course, the curricula of private two-year colleges which mostly consist of transfer programs.

Certain differences in articulation were also found between regions. Whereas baccalaureate institutions in the Northeast and the Southeast received larger shares of transfers from private two-year colleges, the West-Southwest received nearly half the students transferring from public two-year colleges. Further, the baccalareate completion rate was slightly lower among students transferring to institutions in the West-Southwest. These regional differences are of great concern to many educators and statewide planners who seek a smoother access and articulation system from one region to another across the nation.

Baccalaureate Attainment

Although fewer transfers than native students received the baccalaureate degree within four years after college entry--two-fifths as compared with

three-fifths--the completion rates of transfer students were reasonably high given the problems associated with transfer. Further, only one out of four transfer student had dropped out of college by 1972. The great majority were still enrolled as full-time students. Conservatively, we may estimate that about the same proportion of transfer students complete the baccalaureate within five years as native students complete the degree within four years. About one in five transfer students--probably the woman--seems to experience a year's delay in degree attainment.

Women generally perform better than men within the optimal time required for a degree, both among two- and four-year college students. The women in our study, although displaying better academic records than men, failed to perform in an expected manner. About two-fifths of both men and women received the baccalaureate within four years after college entry. In short, when matched on abiiity, on type of sending and receiving institution, on major fields, and on sources of financing, women transfer students did no better than men, even though, in addition to having superior academic achievement records, they were also better prepared in that more had completed an associate degree program in the two-year college. Further research is needed to understand just why the women transfer student does not do as well as the woman who initially enters, and remains in, a baccalaureate institution.

The cross-tabulations indicated certain relationships between degree performance and the characteristics of receiving institutions. For instance, those transferring to a university were less likely to receive the baccalaureate within four years than were those transferring to a four-year college. Size and selectivity both appear to have a negative impact on degree completion; that is, students who transferred to small and less selective institutions were more likely to attain

the degree in the optimal time. Finally, students who transferred to institutions in the West-Southwest were less likely to receive their baccalaureate than were students who had transferred to institutions in other regions. Except for this last relationship, most of these relationships disappeared when differences in student input and characteristics of the sending institution were taken into account. That is, the type, control, size, selectivity, and region (with the exception of the West-Southwest) of the receiving institution made no difference to baccalaureate completion rates, once students were matched on demographic and background characteristics (such as sex and socioeconomic status), ability, type of two-year college attended, four-year college majors, and sources of finance. The two most potent predictors of baccalaureate completion were overall college grade-point average and size of the sending institution: Students whose academic performance in college, as measured by grade-point averages, was good tended to complete their degree within four years after college entry, whereas students who had transferred from large two-year colleges were less likely to complete their baccalaureate degree program within this time span. When transfer students were not matched on four-year college experiences, those who went to institutions in the West-Southwest were more likely to fail. There are three possible explanations. First, because the public college system of most of the states in this region is large, transfer is easier, allowing students with less academic ability to move from one type of institution to another. Indeed, this regional difference disappears when students are matched on overall college grade-point average. Second, regions may differ in the transfer of credits they allow for different majors. Again, the regional difference disappears when students are matched by major field of study. Finally,

there may be regional differences in the availability of financial aid to transfer students; and receiving such aid is strongly related to the academic progress of any college student. For instance, students who drop out of school temporarily to work full-time and make money to finance their education are, of course, less likely to complete their baccalaureate within four years.

In summary, our findings indicate that transfer now affects about half the first-time, full-time freshmen who enter two-year colleges. Two-fifths of our sample of transfers received the baccalaureate within four years after college entry. In view of the increasing popularity of two-year colleges, the route to the baccalaureate may increasingly follow the twelve-plus-two-plus-two pattern rather than the traditional twelve-plus-four pattern. We estimate that perhaps as many as 15 percent of all baccalaureates awarded to 1968 freshmen in 1972 were received by two-year college entrants. It is reasonable to assume that this proportion could easily double if articulation between public two-year colleges and private four-year institutions were made smoother and if access problems arising from transfer of credits were solved. We are not denying the importance of the terminal function of two-year colleges. We are simply suggesting that students who wish to change from terminal to baccalaureate programs should not pay too high a price for upgrading their educational aspirations. It seems to us that the problem lies not only in the occasional strains involved in moving from transfer curricula to four-year curricula but also in the much greater difficulties involved in moving from terminal curricula to four-year curricula. More research on a national scale is needed to assess the problems faced by students who wish to transfer to four-year colleges from terminal programs in a two-year college.

There are several possible reasons why a student in either a transfer or a terminal program may not go on to a four-year institution. First, the student simply may not want to transfer. Second, the student may want to transfer but never apply because of lack of encouragement or because the obstacles to transfer seem overwhelming. Finally, the student may apply but fail to meet the criteria for admissions. Further research should attempt to ascertain the extent to which each of these three reasons for nontransfer obtain. In addition, the factors associated with motivation to transfer, as well as the specific obstacles perceived by students with various demographic and background characteristics and in various curricular areas, should be assessed. The characteristics of accepted and of rejected applicants should also be compared, in association with characteristics of the institutions to which they apply.

We have found that demographic and background factors--with the notable exception of sex and grades--do not explain much of the variance in transfer vs. nontransfer or in completion vs. noncompletion of the baccalaureate within four years. Further research should focus (more than we have been able to do) on the extent to which two-year and four-year college experiences affect the educational progress of junior college students. For example, it is important to know more about the role of academic and personal counseling, as well as other special institutional efforts that may work successfully to ease the transition from two- to four-year institutions. Clearly, to answer questions such as these, a new nationwide study designed for the sole purpose of investigating the transfer phenomenon should be undertaken.

From the findings of our study, we now know that the transfer phenomenon is of major significance in postsecondary education. We have gained some

insight into the transfer population, including the factors associated with transferring and with completing the baccalaureate in the optimal time period. While there is still much to discover about this process, the findings should help policy-makers to approach transfer issues with knowledge based on national data.

Table 1

Characteristics of Freshmen Who Entered Two- and Four-Year Institutions in 1968 and 1973

(In Percentages)

Item	1968				1973			
	All Two-Year Colleges	Two-Year Public	Two-Year Private	All Four-Year Institutions[a]	All Two-Year Colleges	Two-Year Public	Two-Year Private	All Four-Year Institutions[a]
Age								
17 or younger	2.5	2.6	2.8	5.4	4.4	4.4	4.3	5.0
18	66.2	65.0	70.9	79.7	68.2	68.2	68.3	79.1
19	18.6	18.6	18.8	11.4	17.4	17.1	21.3	13.8
20 or older	12.7	13.9	7.5	3.4	10.0	10.1	6.1	2.0
Average high school grades								
A- to A+	3.4	3.1	5.0	17.6	6.7	6.7	7.8	24.5
B- to B+	42.9	43.5	41.3	59.4	59.6	60.0	55.3	63.1
C+	23.6	23.8	22.3	13.5	16.1	16.1	16.4	7.3
C or less	30.0	29.5	31.3	9.7	17.5	17.3	20.5	5.1
Parental Income (in 1968 dollar values)								
Under $10,000	58.5	60.4	50.8	44.9	51.8	54.8	47.9	45.2
$10,000 to $14,999	25.5	25.6	25.0	27.9	29.9	27.7	26.3	22.2
$15,000 to $19,999	8.9	8.2	11.5	12.3	9.7	9.4	15.6	19.0
$20,000 or more	7.1	5.8	12.7	14.9	8.6	8.1	10.2	13.6

Table 1

(Concluded)

Item	1968				1973			
	All Two-Year Colleges	Two-Year Public	Two-Year Private	All Four-Year Institutions[a]	All Two-Year Colleges	Two-Year Public	Two-Year Private	All Four-Year Institutions
Father's education								
Less than high school graduate	37.8	40.1	28.9	23.2	29.0	29.5	24.2	15.9
High school graduate	33.2	33.3	32.5	27.6	34.7	35.3	28.3	24.2
Some college	15.6	15.1	18.1	18.8	16.7	16.7	17.5	20.1
College graduate or higher degree	13.3	11.6	20.6	29.3	19.5	18.6	29.8	39.9
Distance from home to college								
Over 50 miles	*	*	*	*	18.5	15.1	58.8	66.5
Reason ("very important") for selecting this college								
Low tuition	32.7	37.7	12.2	21.0	37.8	40.0	9.4	19.7
Wanted to live at home	*	*	*	*	23.3	24.4	9.8	7.6
Plan to receive bachelor's or higher degree	69.8	68.3	77.1	94.5	75.7	75.5	78.3	95.1

[a]Recalculated (combining entrants into four-year colleges and universities) from 1968 and 1973 freshman norms for first-time entering freshmen (see: Creager et al, 1968; Astin et al, 1973). The 1968 norms have since been reweighted and should be considered approximate.

*Item not included in 1968 freshman survey.

Table 2

Weighted and Unweighted Numbers: Longitudinal Files of Junior College Freshmen and of Transfers

Population	File A: All Entrants into Two-Year Colleges in 1968	File B: Transfers from Two- to Four-Year Colleges
Unweighted numbers		
Total	4,724	2,643
Men	2,407	1,375
Women	2,317	1,268
Weighted numbers		
Total	380,605	197,600
Men	241,014	134,293
Women	139,592	63,308

Table 3

Percent Transferred to a Four-Year College,
by Sex and Control of Two-Year College in Which Enrolled in 1968

Control	Men		Women		Total	
	N[a]	Percent Transferred	N[a]	Percent Transferred	N[a]	Percent Transferred
Total, two-year college entrants in 1968	241,014	55.7	139,592	45.3	380,605	51.9
Public	213,627	55.6	115,918	41.8	329,543	50.7
Private	27,388	56.5	23,674	62.7	51,062	59.4

[a]Base used to calculate percent transferred.

Note: The weighted numbers and percentages in this and subsequent tables may not total exactly due to rounding.

Table 4

Number and Percent of Transfers and Nontransfers, by Sex and Control of Two-Year College in Which Enrolled in 1968

Subgroup	Transfers		Nontransfers	
	Number	Percent	Number	Percent
Men, public colleges	118,799	60.1	94,828	51.8
Men, private colleges	15,482	7.8	11,906	6.5
Women, public colleges	48,457	24.5	67,461	36.9
Women, private colleges	14,852	7.5	8,822	4.8
Total	197,589	100.0	76,283	100.0
Men:				
Public	118,799	88.5	94,828	88.8
Private	15,482	11.5	11,906	11.2
Total	134,281	100.0	106,733	100.0
Women:				
Public	48,457	76.5	67,461	88.4
Private	14,852	23.5	8,822	11.6
Total	63,309	100.0	76,283	100.0
Men	134,281	68.0	106,733	58.3
Women	63,309	32.0	76,283	41.7
Total	197,589	100.0	183,016	100.0

Table 5

Comparison of Transfers and Nontransfers on Demographic Characteristics, by Sex

(In Percentages)

Characteristic	Transfers			Nontransfers			Natl. Norms for 1968 Freshmen All Institutions
	Men	Women	Total	Men	Women	Total	
Age							
16 or younger	.0	.1	.0	.1	.3	.2	.1
17	1.6	3.9	2.4	1.9	2.4	2.1	4.5
18	60.7	79.6	66.8	57.4	67.1	61.5	75.6
19	16.1	11.3	14.5	21.9	14.2	18.7	13.6
20	10.8	1.1	7.7	4.3	2.3	3.5	2.1
21	3.2	.1	2.2	1.1	.6	.9	.9
Older than 21	7.6	3.9	6.4	13.2	13.2	13.2	3.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Race							
No response	.6	.8	.7	1.1	1.0	1.1	
Caucasian/white	90.9	85.5	89.1	85.0	83.8	84.5	
Negro/black	3.1	6.0	4.0	5.4	8.4	6.7	
American Indian	.9	.8	.9	2.7	1.6	2.2	
Oriental	2.4	3.2	2.6	1.4	2.1	1.7	
Other	2.2	3.8	2.7	4.4	3.0	3.8	
Total	100.0	100.0	100.0	100.0	100.0	100.0	
Residence for most of growing years							
Farm	9.1	12.7	10.2	12.8	10.3	11.8	10.3
Small town	13.4	18.1	14.9	21.3	22.7	21.9	20.0
Moderate size city or town	30.7	37.4	32.8	37.1	35.0	36.2	33.0
Suburb of a large city	21.0	12.9	18.4	15.7	16.2	15.9	22.5
Large city	25.6	18.6	23.4	12.1	15.6	13.5	14.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
National origin of father							
Foreign-born	8.8	8.4	8.7	8.6	11.9	10.0	
U.S.-born	91.2	91.6	91.3	91.4	88.1	90.0	
Total	100.0	100.0	100.0	100.0	100.0	100.0	
(N)	(134,281)	(63,309)	(197,589)	(106,733)	(76,283)	(183,016)	

Table 5

(Continued)

Characteristic	Transfers			Nontransfers			Natl. Norms for 1968 Freshmen All Institutions[a]
	Men	Women	Total	Men	Women	Total	
Father's education							
Grammar school or less	17.5	12.3	15.9	14.8	19.0	16.5	10.4
Some high school	14.7	18.3	15.9	24.4	22.7	23.7	17.2
High school graduate	35.4	29.3	33.4	36.0	31.4	34.1	30.1
Some college	20.2	18.2	19.6	14.7	15.9	15.2	17.8
College degree	9.5	15.3	11.3	8.0	9.5	8.7	16.0
Postgraduate degree	2.6	6.6	3.9	2.2	1.6	2.0	8.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mother's education							
Grammar school or less	9.5	10.2	9.7	9.6	13.4	11.2	6.6
Some high school	18.0	13.9	16.7	22.9	24.6	23.6	15.1
High school graduate	49.8	40.0	46.6	45.7	38.5	42.7	43.4
Some college	13.7	18.6	15.3	12.2	17.2	14.3	18.8
College degree	6.2	15.1	9.0	9.1	5.3	7.5	13.6
Postgraduate degree	2.9	2.2	2.6	.5	1.0	.7	2.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Father's occupation							
Businessman	27.5	25.7	26.9	19.8	21.0	20.3	30.1
Engineer	4.6	6.4	5.2	6.1	3.8	5.2	7.0
Farmer	6.2	7.7	6.7	7.5	7.2	7.4	6.6
Laborer or semiskilled worker	12.6	12.9	12.7	22.3	18.3	20.7	13.0
Lawyer, doctor	.3	2.5	1.0	.7	.6	.6	3.2
Teacher	1.9	3.4	2.4	1.6	.8	1.2	2.9
Unemployed	2.1	1.5	1.9	1.3	1.9	1.5	1.1
All other[a]	42.0	36.0	40.0	36.4	41.7	38.6	36.3
No response	2.8	3.9	3.2	4.3	4.7	4.5	*
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 5

(Concluded)

Characteristic	Transfers			Nontransfers			Natl. Norms for 1968 Freshmen All Institutions[a]
	Men	Women	Total	Men	Women	Total	
Parental income in 1967							
Less than $4,000	4.1	6.2	4.8	6.4	8.9	7.5	6.3
$4,000 - $5,999	11.6	11.6	11.6	13.9	12.8	13.5	10.3
$6,000 - $7,999	13.9	17.0	14.9	17.2	15.8	16.6	15.5
$8,000 - $9,999	21.5	13.2	18.8	19.9	12.4	16.7	16.9
$10,000 - $14,999	33.8	32.4	33.4	29.6	37.2	32.8	27.2
$15,000 - $19,999	9.5	8.7	9.3	7.4	6.2	6.9	11.2
$20,000 - $24,999	1.4	5.0	2.5	3.4	3.5	3.4	5.3
$25,000 - $29,999	1.1	2.1	1.4	.8	.9	.8	2.5
$30,000 or more	3.0	3.8	3.2	.4	2.3	1.8	4.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
(N)	(134,281)	(63,309)	(197,589)	(106,733)	(76,283)	(183,016)	

[a]The 1968 norms for all institutions shown on this and subsequent tables were taken from Creager et al, 1968.

*"No response" was excluded from percentage base.

Table 6

Percent Transferred, by Demographic Characteristics and Sex

Characteristic	Men		Women		Total	
	N	Percent Transferred	N	Percent Transferred	N	Percent Transferred
Total two-year college entrants in 1968	241,014	55.7	139,592	45.4	380,605	51.9
Age in 1968						
20 years or older	48,885	59.3	15,508	20.9	64,392	50.0
Under 20	192,149	54.8	124,084	48.4	316,232	52.3
Race						
Caucasian/white	212,745	57.3	118,060	45.8	330,805	53.2
Negro/black	9,897	41.6	10,267	37.3	20,164	39.4
American Indian	4,054	29.8	1,734	28.7	5,788	29.4
Oriental	4,647	68.0	3,599	55.5	8,248	62.6
Residence for most of growing years						
Large city	47,338	72.7	23,614	49.7	70,952	65.1
Suburb of a large city	45,031	62.8	20,544	39.8	65,575	55.6
Moderate size city or town	80,818	51.0	50,389	47.0	131,206	49.5
Small town	40,762	44.3	28,783	39.9	69,545	42.5
Farm	25,850	47.1	15,845	50.6	41,694	48.4
Father's national origin						
Foreign-born	21,053	56.3	14,366	36.9	35,419	48.4
U.S.-born	219,958	55.7	125,225	46.3	345,182	52.3

Table 6

(Concluded)

Characteristic	Men		Women		Total	
	N[a]	Percent Transferred	N[a]	Percent Transferred	N[a]	Percent Transferred
Father's education						
College graduate	27,242	59.8	22,299	62.1	49,540	60.8
Attended college, no degree	42,820	63.6	23,617	48.8	66,437	58.2
Did not attend college	170,975	53.1	93,677	40.5	264,650	48.7
Mother's education						
College graduate	22,269	54.3	15,785	69.2	38,053	60.5
Attended college, no degree	31,457	58.5	24,862	47.4	56,319	53.6
Did not attend college	187,310	55.4	98,945	41.0	286,255	50.4
Father's occupation						
Laborer or semi-skilled worker	40,811	41.6	22,129	36.9	62,941	39.9
All other	200,205	58.6	117,462	46.9	317,667	54.3
Parental income in 1967						
$10,000 or more	111,117	59.1	71,103	46.3	182,220	54.1
9,999 or less	129,919	52.9	68,489	44.4	198,409	49.9

[a]Base used to calculate percent transferred.

Table 7

Comparison of Transfers and Nontransfers on Financial Considerations, by Sex

(In Percentages)

Financial Consideration	Transfers			Nontransfers			Natl. Norms for 1968 Freshmen All Institutions
	Men	Women	Total	Men	Women	Total	
Influence of low cost on choice of freshman-year college							
Major	41.5	38.8	40.6	30.3	34.2	31.9	24.6
Minor	31.0	30.3	30.8	37.6	33.3	35.8	*
Not relevant	27.5	30.8	28.6	32.1	32.5	32.3	*
Total	100.0	100.0	100.0	100.0	100.0	100.0	
Major sources of financing freshman year							
Personal savings or employment	52.0	28.3	44.4	48.8	30.7	41.3	27.8
Parental or other family aid	33.9	56.2	41.1	33.8	51.2	41.1	52.1
Repayable loan	6.9	9.1	7.6	9.7	9.8	9.7	13.6
Scholarship, grant, or other gift	9.6	13.8	10.9	8.9	9.0	8.9	18.2
Concern about financing freshman year							
None	33.9	33.3	33.7	35.3	38.8	36.7	35.2
Some	56.6	59.2	57.4	55.4	54.3	55.0	56.3
Major	9.5	7.5	8.8	9.3	6.9	8.3	8.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
(N)	(134,281)	(63,309)	(197,589)	(106,733)	(76,283)	(183,016)	

*Only "major" category is shown in Creager et al., 1968.

Table 8

Percent Transferred, by Financial Considerations and Sex

Financial Consideration	Men		Women		Total	
	N[a]	Percent Transferred	N[a]	Percent Transferred	N[a]	Percent Transferred
Influence of low cost on choice of freshman-year college						
Major	88,014	63.6	50,702	48.5	138,716	57.9
Minor or not relevant	153,020	51.4	88,889	43.6	241,910	48.5
Expected major source of financing freshman year						
Personal savings	121,974	57.3	41,397	42.8	163,370	53.8
Repayable loan	19,671	47.4	13,241	43.7	32,913	45.9
Scholarship, grant, or other gift	22,280	57.5	15,578	56.0	37,858	56.9
Concern about financing freshman year						
Some or major concern	157,802	56.2	88,907	47.5	246,709	53.1
No concern	83,231	54.8	50,667	41.6	133,916	49.8

[a]Base used to calculate percent transferred.

Table 9

Comparison of Transfers and Nontransfers on Academic Achievement and Activities in High School, by Sex

(In Percentages)

Item	Transfers			Nontransfers			Natl. Norms for 1968 Freshmen All Institutions
	Men	Women	Total	Men	Women	Total	
Student's rating of academic standards of own high school							
Very high	22.7	25.4	23.6	19.3	20.2	19.6	30.6
Fairly high	34.9	35.7	35.2	30.5	32.6	31.4	35.0
About average	35.4	35.4	35.4	42.6	42.8	42.7	30.1
Probably below average	6.7	2.9	5.5	6.7	3.5	5.4	3.6
Definitely below average	.3	.5	.4	.9	1.0	.9	.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Student's rating of own academic standing in high school class							
Top 1%	.8	2.3	1.3	.5	2.3	1.3	4.8
Top 10%	5.2	14.1	8.1	2.8	8.5	5.2	19.9
Top quarter	20.2	25.7	22.0	12.4	21.7	16.3	26.5
Second quarter	38.8	34.6	37.5	40.4	39.4	40.0	27.6
Third quarter	28.0	20.2	25.5	35.8	22.1	30.1	17.2
Fourth quarter	7.0	3.1	5.7	8.1	5.9	7.2	4.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
High school grade average							
A or A+	.6	2.5	1.2	.2	1.5	.5	4.6
A-	2.0	6.9	2.5	.5	3.9	1.9	8.7
B+	5.1	14.5	22.4	3.1	11.5	6.6	15.9
B	17.7	27.5	20.4	12.1	26.9	18.3	23.1
B-	22.0	19.0	21.0	14.5	21.1	17.3	15.5

Table 9

(Concluded)

Item	Transfers			Nontransfers			Natl. Norms for 1968 Freshmen All Institutions
	Men	Women	Total	Men	Women	Total	
High school grade average (cont'd)							
C+	21.6	17.8	20.8	26.5	16.5	22.3	16.5
C	27.9	10.7	8.1	40.8	18.8	31.6	14.9
D	3.3	1.0	3.6	2.4	.2	1.5	.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Activities frequently engaged in during year prior to college enrollment[b]							
Came late to class	62.5	48.3	57.9	61.2	47.1	55.4	53.6
Checked out a book or journal from the school library[a]	41.3	56.7	46.2	32.2	55.1	41.7	50.3
Discussed future with parents[a]	36.4	46.9	39.8	25.9	40.4	32.0	38.5
Failed to complete a homework assignment on time	75.3	52.9	68.1	77.3	52.1	66.7	61.3
Argued with a teacher in class	54.5	39.5	49.7	51.4	34.0	44.2	50.9
Did extra (unassigned) reading for a course[a]	5.4	11.5	7.4	7.8	12.1	9.6	11.1
Read poetry not connected with a course	35.7	63.0	44.4	34.5	65.8	47.5	56.1
Discussed politics[a]	27.2	24.0	26.2	20.0	17.5	18.9	29.9
Asked a teacher for advice after class[a]	19.7	17.6	19.0	13.0	16.6	14.5	21.5
(N)	(134,281)	(63,309)	(197,589)	(106,733)	(76,283)	(183,016)	

[a]"Frequently" only; all other items "frequently plus occasionally."

Table 10

Percent Transferred, by Academic Achievement, Activities in High School and Sex

Item	Men		Women		Total	
	N	Percent Transferred	N	Percent Transferred	N	Transferred
Academic rating in high school class						
Top half	52,045	67.8	51,477	51.7	103,521	59.8
Bottom half	188,992	52.4	88,116	41.6	277,105	49.0
High school grade-point average						
B+ or better	14,271	71.5	27,708	54.8	41,978	60.4
B, B-	81,639	65.3	66,096	44.5	147,735	56.0
C+ or lower	145,127	48.8	45,788	40,8	190,915	46.9
Activity frequently engaged in during year prior to college enrollment						
Checked out a book or journal from the school library	89,765	61.8	77,895	46.0	167,660	54.5
Discussed future with parents	76,578	63.8	60,519	49.1	137,097	57.3
Discussed politics	57,897	63.1	28,515	53.3	86,412	59.9
Asked a teacher for advice after class	40,299	65.7	23,802	46.8	64,102	58.7

Table 11

Comparison of Transfers and Nontransfers on Aspirations at Time of College Entry, by Sex

(In Percentages)

Item	Transfers			Nontransfers			Natl. Norms for 1968 Freshmen All Institutions
	Men	Women	Total	Men	Women	Total	
Degree plans							
None	9.0	4.7	7.7	11.6	9.9	10.9	4.1
Associate (or equivalent)	8.1	10.8	9.0	21.2	39.5	28.8	6.7
Bachelor's degree (B.A., B.S., etc.)	38.8	44.0	40.5	38.1	32.8	35.9	38.2
Master's degree (M.A., M.S., etc.)	28.0	32 9	29.5	18.3	9.5	14.7	32.5
Ph.D. or Ed.D.	10.1	4.1	8.2	5.4	2.1	4.0	10.6
M.D., D.D.S., or D.V.M.	2.8	1.3	2.3	2.0	.5	1.4	4.2
LL.B or J.D.	.7	.2	.5	.3	.0	.2	1.4
B.D.	.2	.4	.3	.3	.2	.3	.3
Other	2.2	1.6	2.0	2.7	5.4	3.9	2.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Likelihood of transfer							
Good chance	24.6	26.1	25.1	12.8	9.1	11.2	
Some chance	23.7	25.4	24.3	18.3	15.7	17.2	
Very little chance	29.3	25.6	28.1	35.7	30.6	33.6	
No chance	22.4	23.0	22.6	33.2	44.6	38.0	
Total	100.0	100.0	100.0	100.0	100.0	100.0	
Probable major field of study							
Liberal arts, total	28.6	43.7	33.4	25.7	22.8	24.5	41.5
Arts and humanities	14.5	21.1	16.6	11.3	12.2	11.6	16.1
Biological science	2.7	1.5	2.3	2.5	2.2	2.4	3.7
Physical science and mathematics	2.6	2.9	2.7	2.8	1.6	2.3	6.7
Social science	8.8	18.2	11.8	9.1	6.8	8.2	15.0

Table 11

(Continued)

Item	Transfers			Nontransfers			Natl. Norms for 1968 Freshmen All Institutions
	Men	Women	Total	Men	Women	Total	
Probable major field of study (cont'd.)							
Allied health fields	1.8	9.0	4.1	2.0	23.3	10.9	5.3
Business	33.1	11.9	26.3	21.8	31.9	26.0	16.4
Education	5.1	21.1	10.2	2.5	10.0	5.7	11.5
Engineering	12.5	.2	8.6	22.2	.5	13.2	9.8
Preprofessional fields	5.4	1.8	4.3	4.3	1.0	2.9	6.3
Technical fields	4.1	1.6	3.3	10.9	2.1	7.2	2.8
Other fields	5.0	5.9	5.2	5.5	4.4	5.1	4.5
Undecided	1.6	2.1	1.8	1.8	.8	1.4	2.0
No response	2.8	2.7	2.8	3.3	3.2	3.1	.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Planned career							
Artist (including performer)[a]	6.6	4.7	6.0	3.6	4.7	4.1	5.8
Businessman	25.2	4.9	18.7	17.2	6.6	12.8	11.3
Clergyman	1.3	.3	1.0	.8	.2	.6	.7
College teacher	.5	1.7	.9	.9	.2	.6	1.1
Doctor (M.D., D.D.S.)	2.2	.4	1.7	1.3	1.4	1.4	3.7
Educator (secondary)	11.0	14.9	12.3	7.5	5.2	6.6	14.4
Elementary teacher	.8	24.0	8.2	.5	12.5	5.5	9.1
Engineer	12.1	.0	8.2	15.1	.8	9.1	8.3
Farmer	3.5	.0	2.4	2.5	.3	1.6	1.7
Health professional (non-M.D.)[b]	2.4	8.0	4.2	2.0	6.3	3.8	4.1
Lawyer	3.1	.2	2.2	1.7	.1	1.0	3.4

Table 11

(Concluded)

Item	Transfers			Nontransfers			Natl. Norms for 1968 Freshmen All Institutions
	Men	Women	Total	Men	Women	Total	
Planned career (cont'd.)							
Nurse	.0	4.3	1.4	.2	16.6	7.0	2.7
Researcher	1.8	1.1	1.6	1.7	.8	1.3	2.9
Other	18.1	21.8	19.3	30.2	34.3	31.9	19.8
Undecided	8.2	10.4	8.9	10.2	5.7	8.3	11.1
No response	3.2	3.3	3.0	4.6	4.3	4.4	
Total	100.0	100.0	100.0	100.0	100.0	100.0	
Life goals rated "essential" or "very important"							
Obtaining recognition from my colleagues for contributions in my special field	41.3	28.5	37.1	32.0	22.0	27.8	36.9
Being very well-off financially	59.6	30.3	50.1	48.3	28.4	40.0	40.8
Helping others who are in difficulty	47.3	67.9	53.9	48.0	71.2	57.6	58.9
Being successful in a business of my own	58.5	29.9	49.4	55.7	30.2	45.1	45.0
(N)	(134,281)	(63,309)	(197,589)	(106,733)	(76,283)	(183,016)	

[a]Actor or entertainer, artist, interior decorator, musician, writer or journalist.

[b]Dietician, lab technician, optometrist, pharmacist, therapist, veterinarian.

Table 12.

Percent Transferred, by Aspirations at Time of College Entry and Sex

Item	Men		Women		Total	
	N	Percent Transferred	N	Percent Transferred	N	Percent Transferred
Degree plans in 1968						
Bachelor's or higher	174,225	61.7	85,100	60.8	259,324	61.4
Less than bachelor's or no response	66,800	40.1	54,491	21.2	121,291	31.6
Major field plans in 1968						
Liberal arts	65,785	58.4	45,069	61.3	110,854	59.6
Business	67,703	65.7	31,824	23.6	99,527	52.2
Education	9,504	71.4	21,025	63.6	30,529	66.0
Engineering	40,487	41.5	554	26.7	41,041	41.3
Preprofessional (including allied health)	16,314	59.2	25,374	26.9	41,688	39.5
Essential or very important life goals in 1968						
Obtaining recognition from my colleagues for contributions in my special field	89,538	61.9	34,817	51.8	124,352	59.1
Being well-off financially	131,557	60.8	40,813	47.1	172,371	57.5

Table 13

Comparison of Transfers and Nontransfers on Activities During First Year of College[a], by Sex

(In Percentages)

Item	Transfers			Nontransfers		
	Men	Women	Total	Men	Women	Tot
Residence for first year						
With parents	73.9	72.2	73.3	67.6	62.9	65.
Other private home, apartment or room	8.2	5.9	7.5	14.7	12.0	13.
College dormitory	12.9	20.2	15.3	11.3	16.3	13.
Fraternity or sorority house	.4	.1	.3	.7	.8	.
Other student housing	.8	1.1	.9	1.8	.8	1.
Other	4.4	1.3	3.4	5.3	6.9	6.
Total	100.0	100.0	100.0	100.0	100.0	100.
Activities during September 1968-June 1969						
Attending college, full time	88.3	94.0	90.1	77.2	79.5	78.
Attending college, part time	6.0	4.1	5.4	6.1	8.6	7.
Attending night school	1.4	2.1	1.6	3.3	2.0	2.
Working while enrolled in college in:						
Federally sponsored work-study program	2.5	7.7	4.1	2.7	4.2	3.
Other on campus work	3.6	5.4	4.2	3.2	4.1	3.
Off campus work	31.3	29.7	30.8	32.4	24.0	28.
Employment for college credit as part of department program	3.0	.1	2.1	.6	1.1	.
Working part time while <u>not</u> enrolled in college	3.8	1.4	3.0	2.4	1.6	2.
Working full time while <u>not</u> enrolled in college	1.6	1.6	1.6	7.1	5.8	6.
Serving in military, active duty	.3	.0	.2	3.0	.0	1.
(N)	(134,274)	(63,308)	(197,582)	(106,731)	(76,281)	(183,01

[a]Activities during first year may not have been antecedent to transfer in all cases.

Table 14

Comparison of Transfers and Nontransfers on Characteristics of Two-Year Colleges in Which Enrolled in 1968, by Control of Two-Year College and Sex

(In Percentages)

Characteristic of Two-Year College	All Two-Year Colleges				Public				Private			
	Men		Women		Men		Women		Men		Women	
	Transfers	Nontransfers	Transfers	Nontransfers	Transfers	Nontransfers	Transfers	Nontransfers	Transfers	Nontransfers	Transfers	Nontransfers
Size (number of students)												
Under 500	6.7	7.9	16.1	8.5	3.4	3.7	3.8	3.1	28.0	41.8	56.3	49.6
500 - 999	14.8	14.7	17.8	12.2	12.4	14.9	13.8	8.9	30.1	13.3	30.8	37.3
1,000 - 2,499	23.5	26.9	17.8	23.6	20.6	24.6	19.2	25.0	41.9	44.9	12.9	13.1
2,500 - 4,999	29.9	27.8	24.5	28.2	34.6	31.3	32.0	32.0	.0	.0	.0	.0
5,000 or more	25.1	22.7	23.9	27.5	28.9	25.5	31.2	31.2	.0	.0	.0	.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Revenues per student												
$1,000 or less	47.7	46.6	44.6	43.2	49.6	49.6	49.3	45.1	35.9	22.6	29.3	29.1
$1,001 - $2,000	45.9	41.1	46.6	46.6	45.8	41.1	48.8	46.1	46.7	41.1	39.1	51.1
$2,001 or more	6.3	12.4	8.8	10.1	4.7	9.3	1.9	8.8	17.3	36.3	31.5	19.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sex of student body												
Coeducational	97.4	95.1	86.2	93.4	100.0	100.0	100.0	100.0	80.6	56.0	41.0	43.4
Single-sex	2.6	4.9	13.8	6.6	.0	.0	.0	.0	19.4	44.0	59.0	56.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percent full-time enrollment												
75% or more	37.2	44.8	48.8	43.4	31.5	40.2	37.2	37.3	79.8	82.4	87.2	90.2
50 - 74%	15.8	22.3	20.2	17.6	15.3	22.6	22.3	18.5	20.1	17.7	12.8	9.7
Less than 50%	47.2	32.9	31.1	39.2	53.1	37.1	40.6	44.1	.0	.0	.0	.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
(N)	(134,281)	(106,733)	(63,309)	(76,283)	(118,799)	(94,828)	(48,457)	(67,461)	(15,482)	(11,906)	(14,852)	(8,822)

Table 15

Percent Transferred, by Characteristics of Two-Year College in Which Enrolled in 1968 and Sex

Characteristic of Two-Year College	Men		Women		Total	
	N[a]	Percent Transferred	N[a]	Transferred	N[a]	Percent Transferred
Total, two-year college entrants in 1968	241,014	55.7	139,592	45.5	380,605	51.9
Size (number of students)						
Under 500	16,213	47.7	16,597	61.4	32,808	54.6
500 - 999	32,587	52.0	20,460	55.1	53,047	53.2
1,000 - 2,499	55,597	48.5	29,024	38.7	84,621	45.2
2,500 - 4,999	63,999	53.7	36,798	42.1	100,797	49.4
5,000 or more	52,934	54.4	35,902	42.1	88,837	49.4
Revenue per student						
$1,000 or less	104,401	52.5	60,845	46.4	165,246	50.2
$1,001 - $2,000	96,464	54.6	64,706	45.6	161,171	51.0
$2,001 or more	20,465	35.9	13,229	42.1	33,693	38.4
Sex ratio of student body						
Coeducational	232,758	56.4	125,831	43.3	358,590	51.8
Single-sex	8,248	36.4	13,757	63.7	22,005	53.5
Percent full-time enrollment						
75% or more	97,835	51.0	64,049	48.3	161,884	49.9
50 - 74%	44,847	47.4	26,033	48.7	70,880	47.9
Less than 50%	98,357	64.2	49,513	39.7	147,871	56.0

[a]Base used to calculate percent transferred.

Table 16

Comparison of Transfers and Nontransfers on Demographic Characteristics, High School Grades and Degree Plans, by Control of Two-Year College in Which Enrolled in 1968 and Sex

(In Percentages)

Characteristic	Men				Women			
	Public		Private		Public		Private	
	Transfers	Nontransfers	Transfers	Nontransfers	Transfers	Nontransfers	Transfers	Nontransfers
Age of student								
20 or older	22.5	18.8	13.8	16.8	5.8	17.5	3.0	5.3
19 or younger	77.4	81.1	86.2	83.2	94.2	82.5	97.0	94.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Father's education								
Attended college	31.5	23.1	38.7	38.6	35.6	24.8	54.6	43.4
Did not attend college	68.5	76.8	61.2	61.3	64.5	75.1	45.3	56.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Parental income								
$10,000 or higher	49.0	42.7	47.4	41.2	49.3	48.8	60.8	59.5
Less than $10,000	51.0	57.2	52.6	58.7	50.8	51.2	39.2	40.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
High school grade average								
B or higher	23.9	16.1	36.1	14.2	55.1	44.2	39.7	36.3
B-or lower	76.1	83.9	63.9	85.8	44.9	55.7	60.3	63.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Freshman-year degree plans								
Bachelor's or higher	79.8	63.9	87.1	68.5	81.7	44.2	87.4	52.7
Less than bachelor's	20.2	36.1	12.9	31.4	18.4	56.0	12.6	47.3
(N)	(118,811)	(94,837)	(15,482)	(11,906)	(48,457)	(67,462)	(14,853)	(8,822)

Table 17

Correlations Between Independent Variables and Transfer to a Four-Year Institution, by Sex

Independent Variables	Total (N = 2,643)	Men (N = 1,375)	Women (N = 1,268)
Background characteristics			
Sex	-.02416	-	-
Age	-.09905*	-.06666	-.14191*
High school grades	.13451*	.19115*	.10199* +
First-year financing:			
personal savings	-.01515	.00954	-.05484
parental aid	.06473	.06784	.07436
Father's education	.11052*	.06152	.16226*
Mother's education	.09760*	.04046	.15452* +
Parental income	.08796*	.05219	.12359
Father: laborer	-.06154	-.06672	-.05816
Grew up in small town	-.04873	-.05113	-.04652
Grew up in large city	.04042	.05588	.02661
Activities while in high school			
Frequency took a book from library	.06485	.10367*	.03367 +
Frequency discussed future with parents	.06593	.07072	.06987
Frequency discussed politics	.09858*	.08418*	.11243*
Frequency asked teacher for advice	.05470	.07610	.03380
Plans and goals in 1968			
Importance of low cost on college choice	.01067	.04702	-.03005
Importance of recognition from colleagues	.03097	.02110	.03737
Importance of financial well-being	.03024	.04132	.00769
Planned bachelor's degree in 1968	.32196*	.25487*	.38425* +
Planned major: liberal arts	.12923*	.07038	.19087* +
First-year experiences in two-year college			
Lived with parents	-.00405	-.00999	-.00245
Lived in dormitory	.09650*	.09198*	.11098*
Combined work with full-time study	.05614	.04526	.06459

Table 17

(Concluded)

Independent Variables	Total (N = 2,643)	Men (N = 1,375)	Women (N = 1,268)
Characteristics of two-year college			
Private control	.02924	-.02474	.08621* +
Percent full-time enrollment of junior college	.12521*	.09161*	.16782*
Affluence of junior college	-.01332	-.08891*	.05518 +
Small size of junior college	.06412*	.01344	.12134* +
Large size of junior college	-.03209	.02801	-.09539* +

*Zero-order r: $p = < .01$ + sex difference: $p = < .01$

Table 18

Predicting Transfer to a Four-Year Institution, by Sex:
All Junior College Freshmen

Variables	Men (N = 2,407) b	Women (N = 2,317) b	t
Age	-.00338	-.02247	
High school grades	.05432	.02893	2.79
Expected first-year financing: Personal savings	.01304	-.00194	
Expected first-year financing: Parental aid	.01834	-.00172	
Father's education	.00936	.02072	
Mother's education	-.00601	.01170	
Parental income	.00877	.00889	
Father: laborer	-.05435	.00590	
Grew up in small town	-.02516	-.03933	
Grew up in large city	.05106	.06452	
Frequently took a book from library	.05263	-.00734	2.60
Frequently discussed future with parents	.02378	-.00038	
Frequently discussed politics	.01668	.02302	
Frequently asked teacher for advice	.03010	-.00905	
Importance of low cost on college choice	.01678	-.00371	
Importance of recognition from colleagues	-.00500	-.00503	
Importance of financial well-being	.01508	.00822	
Planned bachelor's in 1968	.21936	.34257	3.93
Probable major: liberal arts	.01857	.07864	2.00
Lived with parents	.02155	.11074	2.16
Lived in dormitory	.19737	.16009	0.72
Combined work with full-time study	.04052	.05323	

Table 18

(Concluded)

Variables	Men (N = 2,407) b	Women (N = 2,317) b	t
Private control of junior college	.10350	.01222	1.6
Percent full-time enrollment of junior college	-.06561	.03635	
Affluence of junior college	-.03728	-.00758	4.0
Small size of junior college	-.01030	.02247	
Large size of junior college	.04521	-.01933	
	R = .38078	R = .45265	

*P .01

Table 19

Predicting Transfer to Four-Year Institution, by Baccalaureate Aspirations in 1968: All Junior College Freshmen

Variables	Planned Bachelor's Degree in 1968 (N = 3,393) b	Did Not Plan Bachelor's Degree in 1968 (N = 1,331) b	t
Sex	-.03905	-.12384	2.52
Age	-.01120	-.01832	
High school grades	.05052	.01372	3.59
Expected first-year financing:			
Personal savings	.00514	-.00018	
Parental aid	.01034	.01230	
Father's education	.01340	.02468	
Mother's education	.00314	.00739	
Parental income	.00422	.02168	1.89
Father: laborer	-.02457	-.02285	
Grew up in small town	-.04884	-.00692	
Grew up in large city	.05396	.08813	
Frequency took a book from library	.02295	.02706	
Frequency discussed future with parents	.01792	-.00243	
Frequency discussed politics	.01861	.04187	
Frequency asked teacher for advice	.02177	-.01927	
Importance of low cost on college choice	.00412	.00954	
Importance of recognition from colleagues	-.00356	-.01136	
Importance of financial well-being	.00414	.03351	
Planned major: liberal arts	.02904	.14623	3.14
Lived with parents	.05349	.06084	
Lived in dormitory	.17939	.17644	.05
Combined work with full-time study	.05437	.03206	

Table 19

(Concluded)

Variables	Planned Bachelor's Degree in 1968 (N = 3,393)	Did Not Plan Bachelor's Degree in 1968 (N = 1,331)	
	b	b	t
Private control of junior college	.06219	.06636	
Percent full-time enrollment of junior college	-.00497	-.05973	
Affluence of junior college	-.01922	-.01646	3.5
Small size of junior college	.01776	.03833	
Large size of junior college	.00314	.08724	
	R = .26515	R = .31426	

*P < .01

Table 20

Predicting Transfer to a Four-Year Institution, by Sex:
Junior College Freshmen Who Aspired to a Baccalaureate in 1968

Variables	Men (N = 1,830)	Women (N = 1,563)	
	b	b	t
Age	-.00483	-.01394	
High school grades	.05796	.04293	1.41
Expected First-year financing:			
Personal savings	.01202	.00036	
Parental aid	.01214	.00655	
Father's education	.01383	.00853	
Mother's education	-.01284	.01603	
Parental income	-.00403	.00806	
Father: laborer	-.05344	.00406	
Grew up in small town	-.04235	-.05158	
Grew up in large city	.02117	.09338	
Frequency took a book from library	.04015	.00368	
Frequency discussed future with parents	.01946	.01635	
Frequency discussed politics	.01222	.02282	
Frequency asked teacher for advice	.03045	.00491	
Importance of low cost on college choice	.01665	-.00554	
Importance of recognition from colleagues	-.00012	-.00829	
Importance of financial well-being	.00565	.00111	
Planned major: liberal arts	-.00684	.04915	
Lived with parents	.01767	.11177	
Lived in dormitory	.19777	.15429	.69
Combined work with full-time study	.04170	.07115	
Private control of junior college	.09757	.01256	1.75
Percent full-time enrollment of junior college	-.07194	.07776	
Affluence of junior college	-.03961	.00011	4.36
Small size of junior college	-.00052	-.03009	
Large size of junior college	.03012	-.08317	
	R = .29627	R = .28613	

*P < .01

Table 21

Predicting Transfer to a Four-Year Institution, by Sex:
Junior College Freshmen Who Did Not Aspire to a Baccalaureate in 1968

Variables	Men (N = 577)	Women (N = 754)	
	b	b	t
Age	-.00210	-.03279	
High school grades	.04121	-.00203	
Expected first-year financing:			
Personal savings	.01335	-.00519	
Parental aid	.04863	-.02053	
Father's education	-.00365	.04249	
Mother's education	.01983	-.00269	
Parental income	.04306	.00540	2.43
Father: laborer	-.04971	.00696	
Grew up in small town	.00564	-.01436	
Grew up in large city	.13542	.04467	
Frequency took a book from library	.09619	-.02228	2.80*
Frequency discussed future with parents	.03365	-.02480	
Frequency discussed politics	.03786	.04496	
Frequency asked teacher for advice	.02201	-.04596	
Importance of low cost on college choice	.01724	.00675	
Importance of recognition from colleagues	-.02444	-.00509	
Importance of financial well-being	.04180	.02116	
Planned major: liberal arts	.12245	.17735	.81
Lived with parents	.03004	.11872	
Lived in dormitory	.18731	.21074	.25
Combined work with full-time study	.01907	.03461	
Private control of junior college	.11368	.02033	
Percent full-time enrollment of junior college	-.04351	-.08045	
Affluence of junior college	-.03267	-.00984	1.66
Small size of junior college	-.04383	.08174	
Large size of junior college	.10081	.05932	
	R = .38426	R = .32455	

*P < .01

Table 22

Percentage of Students in Institutions in the ACE Institutional Research File, by Control of Sending Institution and Sex of Student

(In Percentages)

Characteristic of Receiving Institution	Total	Control of Institution		Sex of Student	
		Public	Private	Men	Women
Level	3.3	3.2	4.2	3.0	4.0
Control	3.3	3.2	4.2	3.0	4.0
Size	17.2	18.9	8.0	20.4	10.5
Selectivity	23.3	25.1	13.4	26.8	16.0
Region	17.2	20.4	10.5	18.9	8.0
Annual tuition (out of state)	17.2	18.9	8.0	20.4	10.5

Table 23

Region of Receiving Institutions

(In Percentages)

Item	Receiving Institution					
	North-east	Mid-west	South-east	West-Southwest	Total	N
Total	22.8	26.8	10.9	39.6	100.0	163,558
Control of Sending Institution						
Public	21.2	26.8	5.7	46.3	100.0	135,638
Private	30.7	26.4	36.1	6.9	100.0	27,920
Sex of Transfer Student						
Men	22.2	29.1	9.4	39.4	100.0	106,907
Women	23.9	22.4	13.6	40.0	100.0	56,650

Table 24

Level of Receiving Institution

(In Percentages)

Item	University	Four-Year College	Two-Year College	Total	N
All Students	23.0	71.4	5.5	100.0	191,036
Control of Sending Institution					
Public	20.9	73.7	5.4	100.0	161,972
Private	34.9	58.7	6.3	100.0	29,064
Sex of Transfer Student					
Men	22.4	72.5	5.0	100.0	130,269
Women	24.3	69.1	6.7	100.0	60,777

Table 25

Control of Receiving Institutions
(In Percentages)

Item	Public	Private	Total	N
Total	81.4	18.6	100.0	191,028
Control of Sending Institution				
Public	85.2	14.8	100.0	161,964
Private	60.4	39.6	100.0	29,064
Sex of Transfer Student				
Men	81.8	18.2	100.0	130,269
Women	80.5	19.5	100.0	60,777

Table 26

Level and Control of Receiving Institutions

(In Percentages)

Item	University			Four-Year College			Two-Year College		
	Public	Private	Total (N)[a]	Public	Private	Total (N)a	Public	Private	Total (N)[a]
Total	84.7	15.3	100.0 (43,993)	80.0	20.0	100.0 (136,460)	85.7	14.3	100.0 (10,592)
Control of Sending Institution									
Public	87.2	12.8	100.0 (33,842)	83.5	16.5	100.0 (119,373)	100.0	.0	100.0 (8,765)
Private	76.2	23.8	100.0 (10,150)	55.7	44.3	100.0 (17,087)	17.0	83.0	100.0 (1,827)
Sex of Transfer Students									
Men	85.5	14.5	100.0 (29,239)	80.7	19.3	100.0 (94,485)	81.7	18.3	100.0 (6,547)
Women	83.0	17.0	100.0 (14,754)	78.5	21.5	100.0 (41,978)	92.1	7.9	100.0 (4,046)

[a]Number of students used as a base for each percentage.

Table 27

Size[a] of Receiving Institutions

(In Percentages)

Item	Under 200	200-499	500-999	1,000-2,499	2,500-4,999	5,000-9,000	10,000-19,999	20,000 or more	Total	N
Total	.1	1.2	4.5	11.5	14.4	26.8	23.7	17.7	100.0	163,559
Control of Sending Institution										
Public	.1	1.1	4.2	9.3	15.0	27.6	23.6	19.1	100.0	135,638
Private	.2	2.0	6.0	22.5	11.3	22.8	24.4	10.8	100.0	27,921
Sex of Transfer Student										
Men	.2	1.4	4.2	11.7	14.2	28.6	22.1	17.5	100.0	106,907
Women	.0	1.0	4.9	11.2	14.7	23.4	26.7	18.1	100.0	56,650

[a]The total, full-time, and resident enrollment obtained from the USOE opening fall enrollment data for 1967.

Table 28

Selectivity[a] of Receiving Institutions

(In Percentages)

Item	Receiving Institution								
	Under 89	89-96	97-104	105-112	113-120	121-128	Over 128	Total	N
Total	4.6	12.8	23.4	38.7	13.9	6.2	.5	100.0	151,471
Control of Sending Institution									
Public	4.1	12.4	23.1	41.6	12.1	6.3	.2	100.0	125,206
Private	6.7	14.9	24.5	24.7	22.0	5.4	1.7	100.0	26,265
Sex of Transfer Student									
Men	4.4	12.5	24.9	37.5	14.4	6.1	.2	100.0	98,319
Women	4.9	13.5	20.5	40.9	12.9	6.3	1.2	100.0	53,152

[a]The median scores of entering freshmen on the ACT, NMSQT, and the SAT composites.

Table 29

Annual Tuition Paid by Out of State Students in Receiving Institutions

(In Percentages)

Item	Receiving Institution									
	$ 0-200	$201-400	$401-600	$601-800	$801-1,000	$1,001-1,500	$1,501-2,000	Over $2,000	Total	N
Total	.6	17.3	19.8	25.1	11.2	21.6	3.9	.4	100.0	163,559
Control of Sending Institution										
Public	.6	19.7	18.8	25.1	10.9	21.6	2.9	.3	100.0	135,638
Private	.7	5.8	24.2	24.9	12.8	21.7	8.9	1.0	100.0	27,920
Sex of Transfer Student										
Men	.6	16.8	20.6	23.8	11.1	23.5	3.3	.3	100.0	106,907
Women	.8	18.3	18.2	27.5	11.6	18.0	5.0	.7	100.0	56,650

Table 30

Fall 1972 Status of Transfer Students, by Sex

(In Percentages)

Item	Men	Women	Total
Degree			
Associate or equivalent	56.8	62.5	58.6
Bachelor's degree or equivalent	40.3	41.9	40.8
Enrolled in school			
Attending college, full-time	41.8	31.1	38.4
Attending college, part-time	6.4	6.8	6.5
Attending graduate or professional school	8.7	6.0	7.8
Interrupting college temporarily (illness, etc.)	2.3	2.0	2.2
Attending a school other than a college or university	0.5	1.3	0.8
Attending night school	5.4	4.3	5.0
Not enrolled in school			
Working part-time	2.0	4.6	2.8
Working full-time	17.8	26.3	20.5
Serving in the military, active duty	3.4	0.2	2.4

Table 31

Baccalaureate Rates of Transfer and Native Students, by Sex and Control of Sender Institution

(In Percentages)

Type of Student	Men	Women	Total
All Transfers	40.3	41.9	40.8
From public two-year college	40.1	38.3	39.6
From private two-year college	41.8	53.6	47.5
All Natives[a]	51.3	64.3	57.2

[a]Based on 10 percent random sample of freshmen entering four-year colleges and universities in 1968.

Table 32

Study Field Majors and Baccalaureate Rates, by Sex

(In Percentages)

Study Field Majors	Study Field Distribution			Baccalaureate Rates		
	Men	Women	Total	Men	Women	Tota
Business	33.1	11.9	26.3	49.1	20.8	45.0
Education	5.1	21.1	10.2	45.4	56.8	52.9
Engineering	12.5	.2	8.6	23.6	81.4	24.1
Liberal arts[a]	28.6	43.7	33.4	44.9	43.9	44.5
Health and other preprofessional fields[b]	7.6	10.8	8.3	34.6	23.2	29.9
Technical fields[c]	4.1	1.6	3.3	17.7	28.8	19.4
Other fields (nontechnical)[d]	.2	5.7	1.9	.0	62.5	58.9
No response	9.2	4.9	7.9	---	---	---

[a]Biological science, English, History, Political Science, Humanities, Fine arts, Mathematics Statistics, Physical science, Social science.

[b]Health technology, Nursing, Pharmacy, Therapy, Predentistry, Premedical, Preveterinary and Prelaw

[c]Other (professional), Communications, Electronics, Industrial arts, other (technical)

[d]Home Economics, Library science, Military science, other (nontechnical)

Table 33

Baccalaureate Attainment Rates, by Sex of Transfer Students and Characteristics of Receiving Institution

(In Percentages)

	Percent in Each Group	Percent With B.A.
Level		
University	22.3	36.3
Four-Year College	69.1	45.8
Two-Year College	5.4	6.6
No information	3.3	23.6
Regions		
Northeast	18.9	43.7
Midwest	22.2	38.7
Southeast	9.0	41.2
West-Southwest	32.8	28.7
No information	17.2	63.4
Control		
Public	78.7	40.7
Private	18.0	44.4
No information	3.3	23.6
Size[a]		
Under 200	.1	10.1
200 - 499	1.0	36.4
500 - 999	3.7	47.8
1,000 - 2,499	9.5	36.5
2,500 - 4,999	11.9	47.3
5,000 - 9,000	22.2	34.8
10,000 - 19,999	19.6	37.1
20,000 or more	14.7	24.7
No information	17.2	63.4
Selectivity[b]		
Under 89	3.5	32.6
89 - 96	9.8	47.6
97 - 104	17.9	37.7
105 - 112	29.7	36.2
113 - 120	10.6	35.3
121 - 128	4.7	37.9
Over 128	.4	64.0
No information	23.3	50.2

Table 33

(Concluded)

	Percent in Each Group	Percent With B.A.
Out of state tuition		
$ 0 - $200	.5	34.4
$201 - $400	14.3	36.3
$401 - $600	16.4	45.1
$601 - $800	20.8	27.0
$801 - $1,000	9.3	38.9
$1,001 $1,500	17.9	37.7
$1,501 - $2,000	3.2	32.4
Over $2,000	.4	35.1
No information	17.2	63.4

[a]The total, full-time, and resident enrollment obtained from the USOE opening fall enrollment data for 1967.

[b]The median scores of entering freshmen on the ACT, NMSQT, and the SAT composits.

Table 35

List and Sequence of Variables Used in the Stepwise Multiple Regression Analysis Run to Predict Baccalaureate Completion of Transfer Students

	Analysis I	Analysis II
Variables Forced in Step 1:	Pipeline Input	Student Input
	Sex (SEX 92)	Sex (SEX 92)
	Age (AGE 93)	Age (AGE 93)
	Parental income (PINC 119)	Parental income (PINC 119)
	Father's education (FED 117)	Father's education (FED 117)
	Mother's education (MED 118)	Mother's education (MED 118)
	Grew up in small town (TOWN 429)	Grew up in small town (TOWN 429)
	Grew up in city (LGCIT 432)	Grew up in the city (LGCIT 432)
	High school GPA (HSG 94)	High school GPA (HSG 94)
	High school class rank (RANK 129)	High school class rank (RANK 129)
Variables Forced in Step 2:	Two-Year College Characteristics and Experiences	Two-Year College Characteristics and Experiences
	Control (ACONT 42)	Control (ACONT 42)
	Size (ENR 80)	Size (ENR 80)
	Lived with parents during freshman year (PAR 569)	Lived with parents during freshman year (PAR 569)
	Lived in a dormitory during freshman year (DOR 570)	Lived in a dormitory during freshman year (DOR 570)
Variables Forced in Step 3:	Characteristics of Receiving Institution	College Experience after Transfer
	Size (Z ENR)	Sources of Finances:
	Selectivity (Z SEL)	Parents (PAR 697)
	Control (Z CONTR)	Spouse (SPO 698)
	Region: Northeast (SELNE)	Federal scholarship (FSCH 699)
	Midwest (SELMW)	State scholarship (SSCH 700)
	Southeast (SELSE)	School scholarship (USCH 701)
	West-Southwest (SELWSW)	Foundation scholarship (FNSCH 702)
		Business scholarship (BUSCH 703)
		Other scholarship (OTSCH 704)
		Federal loans (FLOA 705)
		State loans (SLOA 706)
		Commercial loans (CLOA 707)
		Other loans (OLOA 708)
		Work-study program (WKS 709)
		Employment during academic year (OCCH 710)
		Summer employment (SUM 711)
		Savings (SAV 713)
		G.I. Bill benefits (GIB 714)
		ROTC benefits (ROTC 715)
		Other sources (OTH 716)
		College GPA (GPA 454)
		Majors
		Business (BUS 361)
		Education (ED 364)
		Engineering (ENG 367)
		Liberal arts[a] (ZLIBC 358)
		Health and other preprofessional fields[b] (ZHEA 371)
		Technical fields[c] (OTT 397)
Variables Entering Freely:	College experience after transfer (see step 3, Analysis II).	Characteristics of receiving institutions (see step 3, analysis I).

[a] Biological sciences, Foreign, History, Political science, Humanities, Fine arts, Mathematics, Statistics, Physical sciences, Social science

[b] Health technology, Nursing, Pharmacy, Therapy, Predentistry, Premedical, Preveterinary and Prelaw

[c] Other (professional), Communications, Electronics, Industrial arts, other (technical)

Table 35

Final Equation of Stepwise Multiple Regression Analysis Predicting Baccalaureate Completion Among Transfers-- Analysis 1

DEPENDENT VARIABLE.. DH

VARIABLE(S) ENTERED ON STEP NUMBER 6.. PAR697

MULTIPLE R	.40476	ANALYSIS OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARE	F
R SQUARE	.16383	REGRESSION	23.	106.53233	4.63184	22.31037
STANDARD ERROR	.45564	RESIDUAL	2619.	543.72874	.20761	

VARIABLES IN THE EQUATION

VARIABLE	B	BETA	STD ERROR B	F
Sex (female)	-.00195	-.00196	.01989	.010
Age	.00476	.00919	.01026	.215
Parent's income	.00262	.01043	.00569	.246
Father's education	-.00063	-.00176	.00814	.006
Mother's education	.01323	.03177	.00935	2.000
Lived in town	.01769	.01422	.02338	.585
Lived in city	-.04248	-.03204	.02740	2.404
High school GPA	.00054	.00171	.00820	.004
Rank in class	.01150	.02614	.01112	1.069
Control (2-yr)	.03301	.03187	.02607	1.603
Size(2-yr)	-.02924	-.09655	.00767	14.539
Lived with parents	.03567	.03465	.02908	1.505
Lived in a dorm	.04801	.04279	.03478	1.906
Size (4-yr)	-.00208	-.00625	.00776	.072
Selectivity (4-yr)	-.01261	-.03315	.00844	2.235
Control (4-yr)	.03127	.02723	.02529	1.529
Northeast (4-yr)	.01901	.02128	.01830	1.079
Midwest (4-yr)	.01401	.01596	.01761	.633
Southeast (4-yr)	.01896	.01840	.02342	.656
West-Southwest (4-yr)	-.06668	-.07528	.01907	12.223
College GPA	.13916	.27851	.01011	189.406
Education	.14642	.10503	.02635	30.874
Parental aid	.06949	.10910	.01284	29.312
(CONSTANT)	.37840			

VARIABLES NOT IN THE EQUATION

VARIABLE	BETA IN	PARTIAL	TOLERANCE	F
Spouse	-.02018	-.02124	.92615	1.182
Fed.scholarship	.00316	.00338	.95334	.030
State scholarship	.05967	.06144	.88640	9.920
Univ. scholarship	.01623	.01684	.90029	.742
Private scholarship	.01635	.01953	.94720	.999
Business scholarship	-.01383	-.01503	.98743	.592
Other scholarship	.03028	.03291	.97506	2.839
Fed. loans	.02102	.02170	.89134	1.234
State loans	.03145	.03316	.92970	2.882
Commercial loans	.03030	.03256	.96542	2.778
Other loans	-.01169	-.01265	.97895	.419
Work study programs	.02493	.02601	.91074	1.773
Other employment	-.02798	-.02925	.85244	2.091
Summer employment	.01299	.01315	.85766	.453
Savings, earnings	-.01834	-.01958	.95318	1.004
G.I.Bill	.00477	.00451	.74903	.053
ROTC	-.00546	-.00595	.99368	.093
Other source	-.01784	-.01930	.97876	.975
Business	.01138	.01189	.91413	.370
Engineering	-.05525	-.05710	.89289	8.563
Liberal arts	.05295	.05270	.82809	7.290
Health, preprofessional	-.04638	-.04989	.96722	6.532
Other technical fields	-.02921	-.03165	.98147	2.625

F-Level or Tolerance - Level Insufficient for Further Computation

Table 36

Final Equation of Stepwise Multiple Regression Analysis Predicting Baccalaureate Completion Among Transfers--Analysis 2

MULTIPLE R	.41791	ANALYSIS OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARE	F
R SQUARE	.17465	REGRESSION	39.	113.56491	2.91192	14.12294
STANDARD ERROR	.45407	RESIDUAL	2603.	536.69615	.20618	

VARIABLES IN THE EQUATION

VARIABLE	B	BETA	STD ERROR B	F
Sex (Female)	-.02552	-.02570	.02145	1.415
Age	.01008	.01947	.01152	.765
Parent's income	.00436	.01608	.00584	.557
Father's education	-.00203	-.00572	.00813	.062
Mother's education	.01330	.03192	.00935	2.024
Lived in town	.00883	.00702	.02335	.143
Lived in city	-.03972	-.02996	.02714	2.142
High School GPA	-.00113	-.00356	.00816	.019
Rank in class	.01256	.02856	.01099	1.306
Control (2-yr)	.05739	.05541	.02484	5.339
Size (2-yr)	-.03301	-.10898	.00718	21.124
Lived with parents	.03740	.03633	.02922	1.639
Lived in a dorm	.04574	.04077	.03474	1.734
Other technical fields	-.11545	-.04199	.05554	4.321
Parental aid	.07208	.11316	.01369	27.709
Spouse	-.01598	-.01605	.01841	.754
Fed. scholarship	-.01575	-.01540	.02016	.610
State scholarship	.05107	.05475	.01752	8.493
Univ. scholarship	.00631	.00600	.02051	.095
Private scholarship	.02964	.02067	.02653	1.248
Business scholarship	-.02286	-.01020	.04035	.321
Other scholarship	.04730	.02807	.03103	2.324
Fed. loans	.01004	.01454	.01379	.531
State loans	.02213	.02119	.01949	1.289
Commercial loans	.03021	.02924	.01885	2.568
Other loans	-.03765	-.02135	.03198	1.386
Work study programs	.01010	.01030	.01964	.264
Other employment	-.01954	-.03082	.01319	2.195
Summer employment	.01333	.02120	.01339	.991
Savings,earnings	-.00908	-.01280	.01369	.440
G. I. Bill	.00878	.00705	.02588	.115
ROTC	-.02564	-.00426	.10836	.056
Other source	-.02565	-.01937	.02399	1.143
College GPA	.13640	.27298	.01019	179.227
Business	-.02102	-.01599	.03474	.366
Education	.12378	.08878	.03610	11.753
Engineering	-.12721	-.06981	.04247	8.971
Liberal arts	-.00400	-.00386	.03085	.017
Health, preprofessional	-.10501	-.06272	.03919	7.178
(CONSTANT)	.72609			

VARIABLES NOT IN THE EQUATION

VARIABLE	BETA IN	PARTIAL	TOLERANCE	F
Size (4-yr)	-.01884	-.01918	.85544	.957
Selectivity (4-yr)	-.02225	-.02295	.87742	1.371
Control (4-yr)	.02651	.02751	.88886	1.971
Northeast (4-yr)	-.00045	-.00047	.90229	.001
Midwest (4-yr)	.01275	.01328	.89543	.456
Southeast (4-yr)	.01326	.01346	.85062	.471
West-Southwest (4-yr)	-.04585	-.04640	.84532	5.613

F-Level or Tolerance-Level Insufficient for Further Computation

Table 37

Major[a] Sources of Support Used by Transfer Students and Baccalaureate Completion Rates, by Sex

(In Percentages)

	Distribution of Financial Aid			Baccalaureate Rate		
	Men	Women	Total	Men	Women	Total
Support from parents or relatives	38.9	56.4	44.5	42.3	41.7	42.1
Support from spouse	7.2	6.5	7.0	55.9	38.4	49.4
Fellowships, scholarships:						
Federal government	4.5	4.4	4.5	30.5	41.7	35.2
State government	5.0	7.1	5.7	54.0	63.4	57.2
School or university	6.2	3.2	5.3	43.5	58.5	49.1
Private foundation or organization	.7	2.4	1.3	35.3	52.9	45.5
Industry or business	.8	.6	.7	45.1	43.5	44.8
Other fellowships, scholarships	1.4	1.1	1.3	44.7	55.1	48.6
Loans:						
Federal government loans	11.7	12.4	11.9	40.8	52.1	44.1
State government loans	5.3	5.3	5.3	28.9	63.0	37.3
Commercial loans (banks, etc.)	4.1	5.0	4.4	20.7	47.9	29.6
Other loans	1.2	.9	1.1	31.2	36.3	32.7
Employment while in college:						
Federally sponsored college work-study program	2.5	7.1	3.9	39.0	47.1	42.3
Other employment during academic year	32.3	20.6	28.5	35.7	42.0	38.0
Summer employment	34.2	26.7	31.8	44.8	47.5	45.8
Employment during a leave of absence from school for one or more terms	6.7	5.2	6.2	12.9	7.3	11.1
Withdrawals from savings, assets	12.3	10.5	11.7	31.7	38.8	34.1
G.I. benefits	9.2	1.4	6.7	25.0	45.6	25.8
ROTC benefits	.1	.0	.1	87.5	----	87.5
Other sources	2.2	3.3	2.6	18.5	54.8	27.3

[a]50 percent or more.

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APPENDIX A

Appendix A

Stratification and Weighting Design

Recently all of the entering freshmen data at ACE's Cooperative Institutional Research Program (CIRP) had been reweighted according to 1971 stratification design. The major reasons for restratification were: (1) availability of more complete and more appropriate information about institutions, (2) changes in the institutional structure of higher education due differential growth rates, (3) accumulated experience regarding the participation rates for various kinds of institutions, and (4) the need for a comparable stratification design which would allow trend analysis from year to year.

1968 Freshman Survey

In the two-year colleges, where rapid growth had occurred and selectivity and/or affluence data were wither unavailable or less relevant, the basis of stratification adopted was size and mode of control. The basis stratification system consisted of separation of the study universe into predominantly white and black institutions. White institutions were further stratified by level (university, four-year college, two-year college) and by control (public, private). In four-year colleges, the stratification design included public, private nonsectarian, private Roman Catholic, and private other sectarian. Universities and four-year colleges were further stratified by their selectivity level (i.e., the average ability of entering freshmen as measured by the ACT, NMSQT, and SAT composite Scores), while two-year colleges were stratified by first-time, full-time resident enrollment. The black institutions were first stratified by level (four-year, two-year) then by control (public, private). Table A presents the stratification

design and cell weights applied to 1968 freshman data.

Followup Survey

In 1972, followup questionnaires were sent to a random sample of students of 454 institutions who responded to the freshman survey in 1968--about 60K-- as well as all minority students who were oversampled, yielding approximately 104K for the survey. Of these 42K returned the survey, yielding a response rate of 40 percent.

Four separate weights were generated:

Weight 1: student weight, correcting for nonresponse

Weight 2: student weight correcting for oversampling of minorities

Weight 3: institutional weight, which is the product of the within-institution weight and within-cell weight, adjusting the followup sample to the freshman file

Weight 4: student weight, which is the final population weight (product of WGT3 and WGT2), adjusting the total weighted N to the first-time, full-time universe of 1968 freshmen.

Weight 1: The 104K Followup file was merged with the 301K 1968 SIF producing two separate longitudinal files. The first is a 104K file where the followup portion is blank if the student did not return the survey. The second is a 42K file that includes just the students who returned the survey. A 10 percent random sample was drawn from the 104K longitudinal file. Regressions analysis was then applied to this sample using the "Response Code" (1 = no response,

Table A 1

1968 ACE Sample and Weights Used in the Report

Stratification Cell For Sampling		Number of Institutions Participants		Cell Weights[a] Applied to Data Collected From	
		Population	# Used Report	Men	Women
Public University					
	Selectivity:				
1.	Less than 550	83	20	2.5	2.5
2.	550 - 599	32	11	3.6	3.1
3.	600 or more	16	9	2.1	2.2
Private University					
	Selectivity:				
4.	Less than 550	16	7	2.1	2.3
5.	550 - 599	13	5	3.2	2.9
6.	600 or more	35	17	2.2	1.8
4-Year Public College					
	Selectivity:				
7,10.	Unknown and less than 400	165	13	11.1	10.1
8.	450 - 499	66	9	7.6	6.6
9.	500 or more	75	15	4.1	7.3
4-Year Private Nonsectarian					
	Selectivity:				
11,15.	Unknown and less than 500	194	24	9.6	5.2
12.	500 - 574	38	6	4.7	6.6
13.	575 - 649	48	16	2.9	2.5
14.	650 or more	47	28	1.5	1.6
4-Year Catholic					
	Selectivity				
16,19.	Unknown and less than 500	115	15	7.7	6.8
17.	500 - 574	75	13	5.5	7.7
18.	575 or more	40	14	5.4	3.5
4-Year Other Sectarian					
	Selectivity				
20,24.	Unknown and less than 450	122	14	8.3	10.9
21.	450 - 499	57	7	7.7	8.7
22.	500 - 574	72	14	7.0	6.0
23.	575 or more	54	15	2.8	3.1
2-Year Public					
	Enrollment				
25,26,27.	Less than 500	359	26	9.7	10.2
28,29.	500 or more	257	20	9.1	9.1
2-Year Private					
	Enrollment				
30,31.	Less than 250	145	9	22.9	11.2
32,33.	250 or more	80	12	6.7	7.4
Predominately Black					
34.	Public 4-year	34	7	7.9	5.1
35.	Private 4-year	49	12	5.1	4.5
36.	2-Year	16	0	0	0

[a] Ratio between the number of 1967 first-time, full-time students enrolled in all colleges and the number of first-time, full-time students enrolled in the ACE sample.

2 = response) as the dependent variable, and 156 variables from the freshman survey as the independent variables. In the final equation, forty of those variables entered.

This equation was then applied to all individuals in the 42K file. The reciprical (1/(y-1)) of the regression weight became WGT1 (note: if WGT1 $<$ 1 then WGT1 = 1; if WGT1 $>$ 20 then WGT1 = 20).

Weight 2: Because all minority students were sampled in the follow-up, a weight had to be developed that would normalize the response of the white students to that of the number of white students in the freshman survey. This weight was developed for each institution, the formula is as follows:

T = Total number of students who filled out freshman questionnaire.

NW = Total number of minority students.

MO = Total number of followup questionnaires mailed out.

$WGT2A = \frac{T - NW}{MO - NW}$ = Race correction factor for a particular institution.

Example: Kentucky State University, Frankfort, KY.

T = 290

NW = 250

MO = 281

$WGT2^{A} = \frac{290 - 250}{281 - 250} = 1.2903$

If student is a minority then WGT2A is set equal to 1

WGT2 = WGT2A * WGT1

This weight is applied to each student in the 42K sample. As a check to see if the weights are correct, a summation of all weights in the sample was compared against the total N of good data institutions in Freshman sample.

The weighted N is 235K while the N from the Freshman survey is 241K giving an error of less than 3 percent, which is considered acceptable.

Weight 3: WGT3 is the product of two correction factors.

WGT3A - used to normalize the weighted institutional N to the population counts for the institution by sex.

WGT3B - used to normalize weighted stratification cell N (1971 stratification scheme) to the population counts for that cell by sex.

WGT3 = WGT3A * WGT3B

Example: Kentucky State University

	Population	Weighted	WGT3A
Male	186	125	1.49
Female	209	231	.90

Strat Cell 33	Weighted Samplecount	Population count	WGT3B
Male	2801	19691	7.0300
Female	1925	17924	9.3112

	WGT3A	WGT3B	WGT3
Male	1.49	7.0300	10.46
Female	.90	9.3112	8.42

Weight 4: Weight four is the product of WGT3 and WGT2 according to sex. It is the final population weight. The summation of WGT4 over the entire file should equal to total first-time, full-time freshman enrollment in 1968.

	Total WGT4	1968 Population	Percent Error
N	(42356) 1341112	1344277	.235%
Insts.	356	2305	

The percent error again is well within acceptable limits.

APPENDIX B *

*Appendix B not available due to marginal reproducibility; data may be obtained from the authors.

SURVEY QUESTIONNAIRES

UNIVERSITY OF CALIF.
LOS ANGELES

AUG 16 1974

CLEARINGHOUSE FOR
JUNIOR COLLEGE
INFORMATION

816644

YOUR NAME (please print) _____
First Middle or Maiden Last

HOME STREET ADDRESS _____

(_____
City State Zip Code (if known)

When were you born? Month (01-12) Day (01-31) Year

Your Social Security Number (please copy carefully)

DO NOT MARK THIS GRID

NOTE:
The information in this report is being collected for the American Council on Education as part of a continuing study of higher education. Your cooperation in this research will contribute to an understanding of how students are affected by their college experiences. Identifying information has been requested by the Council in order to make subsequent mail follow-up studies possible. Your responses will be held in the strictest professional confidence, and will be used only in group summaries for research purposes.

DIRECTIONS: Your responses will be read by an optical mark reader. Your careful observance of these few simple rules will be most appreciated.

Use only black lead pencil (No. 2½ or softer). Make heavy black marks that fill the circle. Erase cleanly any answer you wish to change. Make no stray markings of any kind.

Example: Will marks made with ball pen or fountain pen be properly read? Yes ○ No ●

1. Your Sex: Male ○ Female ○

2. How old will you be on December 31 of this year? (Mark one)

16 or younger ○ 20 ○
17 ○ 21 ○
18 ○ Older than 21 ○
19 ○

3. What was your average grade in secondary school? (Mark one)

A or A+ ○ B− ○
A− ○ C+ ○
B+ ○ C ○
B ○ D ○

4. To how many colleges other than this one did you actually apply for admission? From how many did you receive acceptances? (Mark one in each column)

	Applications	Acceptances
No other	○	○
One	○	○
Two	○	○
Three	○	○
Four	○	○
Five	○	○
Six or more	○	○

5. Mark one:

This is the first time I have enrolled in college as a freshman. ○
I came to this college from a junior college ○
I came to this college from a four-year college or university ○

6. The following questions deal with accomplishments that might possibly apply to your high school years. Do not be discouraged by this list; it covers many areas of interest and few students will be able to say "yes" to many items. (Mark all that apply)

	Yes
Was elected president of one or more student organizations (recognized by the school)	○
Received a high rating (Good, Excellent) in a state or regional music contest	○
Participated in a state or regional speech or debate contest	○
Had a major part in a play	○
Won a varsity letter (sports)	○
Won a prize or award in an art competition	○
Edited the school paper, yearbook, or literary magazine	○
Had poems, stories, essays, or articles published	○
Participated in a National Science Foundation summer program	○
Placed (first, second, or third) in a state or regional science contest	○
Was a member of a scholastic honor society	○
Won a Certificate of Merit or Letter of Commendation in the National Merit Program	○

7. What is the highest academic degree that you intend to obtain? (Mark one)

None ○
Associate (or equivalent) ○
Bachelor's degree (B.A., B.S., etc.) ○
Master's degree (M.A., M.S., etc.) ○
Ph.D. or Ed.D. ○
M.D., D.D.S., or D.V.M. ○
LL.B. or J.D. ○
B.D. ○
Other ○

8. Do you have any concern about your ability to finance your college education? (Mark one)

None (I am confident that I will have sufficient funds) ○
Some concern (but I will probably have enough funds) ○
Major concern (not sure I will be able to complete college) ○

9. Are you a twin? (Mark one)

No ○
Yes, identical ○
Yes, fraternal same sex ○
Yes, fraternal opposite sex ○

10. Through what source do you intend to finance the first year of your undergraduate education? (Mark one in each row)

	Major Source	Minor Source	Not a Source
Personal savings and/or employment	○	○	○
Parental or other family aid	○	○	○
Repayable loan	○	○	○
Scholarship, grant, or other gift	○	○	○

11. What is the highest level of formal education obtained by your parents? (Mark one in each column)

	Father	Mother
Grammar school or less	○	○
Some high school	○	○
High school graduate	○	○
Some college	○	○
College degree	○	○
Postgraduate degree	○	○

12. What is your best estimate of the total income last year of your parental family (not your own family if you are married)? Consider annual income from all sources before taxes. (Mark one)

Less than $4,000 ○	$15,000-$19,999 ○
$4,000-$5,999 ○	$20,000-$24,999 ○
$6,000-$7,999 ○	$25,000-$29,999 ○
$8,000-$9,999 ○	$30,000 or more ○
$10,000-$14,999 ○	

13. What is your racial background? (Mark one)

Caucasian ○ Negro ○ American Indian ○
Oriental ○ Other ○

14. Mark one in each column:

	Religion in Which You Were Reared	Your Present Religious Preference
Protestant	○	○
Roman Catholic	○	○
Jewish	○	○
Other	○	○
None	○	○

15. How would you rate the academic standards of your high school? (Mark one)

Very high	○
Fairly high	○
About average	○
Probably below average	○
Definitely below average	○

16. Where did you rank academically in your high school graduating class? (Mark one)

Top 1% ○ Top 10% ○ Top Quarter ○
2nd Quarter ○ 3rd Quarter ○ 4th Quarter ○

17. Where did you live for most of the time while you were growing up?

On a farm	○
In a small town	○
In a moderate size town or city	○
In a suburb of a large city	○
In a large city	○

18. During the past year in school, how often did the following statements apply to you? (Mark one in each row)

	Always	Usually	Sometimes	Rarely or Never
Turned in assigned work on time	○	○	○	○
Had trouble concentrating on assignments	○	○	○	○
Kept my desk or study place neat	○	○	○	○
Was too bored to study	○	○	○	○
Outlined the main points of a reading assignment	○	○	○	○
Made careless mistakes on a test	○	○	○	○
Did my homework at the same time every day	○	○	○	○
Studied alone	○	○	○	○
Put off starting my homework	○	○	○	○
Got "exam jitters"	○	○	○	○
Fell asleep while studying	○	○	○	○
Memorized facts or formulas without understanding them	○	○	○	○
Quit before completing a difficult assignment	○	○	○	○
Shared or reviewed notes with other students	○	○	○	○
Checked my work before turning in a paper or test	○	○	○	○
Did unrequired work for extra credit	○	○	○	○
Made-up and took my own test for practice	○	○	○	○
Daydreamed while studying	○	○	○	○
Got a lower grade than I deserved in a test or assignment	○	○	○	○
Included minor details when taking notes	○	○	○	○
Wasted too much time on bull sessions	○	○	○	○
Analyzed my mistakes to be sure I understood what was wrong	○	○	○	○
Carefully went over diagrams or tables in the textbook	○	○	○	○
Studied with the radio or record player on	○	○	○	○
Studied with the TV on	○	○	○	○
Clarified assignments with an instructor	○	○	○	○

19. What is your best guess as to the chances that you will: (Mark one in each row)

	Very Good Chance	Some Chance	Very Little Chance	No Chance
Get married while in college?	○	○	○	○
Get married within a year after college?	○	○	○	○
Obtain an A- or better over-all grade point average?	○	○	○	○
Change major field?	○	○	○	○
Change career choice?	○	○	○	○
Fail one or more courses?	○	○	○	○
Graduate with honors?	○	○	○	○
Be elected to a student office?	○	○	○	○
Join a social fraternity, sorority, or club?	○	○	○	○
Author or co-author a published article?	○	○	○	○
Be elected to an academic honor society?	○	○	○	○
Participate in student protests or demonstrations?	○	○	○	○
Drop out of this college temporarily (exclude transferring)?	○	○	○	○
Drop out permanently (exclude transferring)?	○	○	○	○
Transfer to another college before graduating?	○	○	○	○

Mark one in each column:

	Your current home state	Your birthplace	Your father's birthpl	Your mother's birthp
A[illegible]	○	○	○	○
Ala[illegible]	○	○	○	○
Arizona	○	○	○	○
Arkansas	○	○	○	○
California	○	○	○	○
Colorado	○	○	○	○
Connecticut	○	○	○	○
Delaware	○	○	○	○
D.C.	○	○	○	○
Florida	○	○	○	○
Georgia	○	○	○	○
Hawaii	○	○	○	○
Idaho	○	○	○	○
Illinois	○	○	○	○
Indiana	○	○	○	○
Iowa	○	○	○	○
Kansas	○	○	○	○
Kentucky	○	○	○	○
Louisiana	○	○	○	○
Maine	○	○	○	○
Maryland	○	○	○	○
Massachusetts	○	○	○	○
Michigan	○	○	○	○
Minnesota	○	○	○	○
Mi[illegible]ssippi	○	○	○	○
[illegible]	○	○	○	○
Montana	○	○	○	○
Nebraska	○	○	○	○
Nevada	○	○	○	○
New Hampshire	○	○	○	○
New Jersey	○	○	○	○
New Mexico	○	○	○	○
New York	○	○	○	○
North Carolina	○	○	○	○
North Dakota	○	○	○	○
Ohio	○	○	○	○
Oklahoma	○	○	○	○
Oregon	○	○	○	○
Pennsylvania	○	○	○	○
Rhode Island	○	○	○	○
South Carolina	○	○	○	○
South Dakota	○	○	○	○
Tennessee	○	○	○	○
Texas	○	○	○	○
Utah	○	○	○	○
Vermont	○	○	○	○
Virginia	○	○	○	○
Washington	○	○	○	○
West Virginia	○	○	○	○
[illegible]n	○	○	○	○
[illegible]ming	○	○	○	○
Canada	○	○	○	○
Latin America	○	○	○	○
Europe	○	○	○	○
Asia	○	○	○	○
Other	○	○	○	○

21. Mark only three responses, one in each column.

Your probable career occupation. (Y)
Your father's occupation. (F)
Your mother's occupation. (M)

NOTE: If your father (or mother) is deceased, please indicate his (her) last occupation.

	Y	F	M
Accountant or actuary	Y	F	M
Actor or entertainer	Y	F	M
Architect	Y	F	M
Artist	Y	F	M
Business (clerical)	Y	F	M
Business executive (management, administrator)	Y	F	M
Business owner or proprietor	Y	F	M
Business salesman or buyer	Y	F	M
Clergyman (minister, priest)	Y	F	M
Clergy (other religious)	Y	F	M
Clinical psychologist	Y	F	M
College teacher	Y	F	M
Computer programmer	Y	F	M
Conservationist or forester	Y	F	M
Dentist (including orthodontist)	Y	F	M
Dietitian or home economist	Y	F	M
Engineer	Y	F	M
Farmer or rancher	Y	F	M
Foreign service worker (including diplomat)	Y	F	M
Housewife	Y	F	M
Interior decorator (including designer)	Y	F	M
Interpretor (translator)	Y	F	M
Lab technician or hygienist	Y	F	M
Law enforcement officer	Y	F	M
Lawyer (attorney)	Y	F	M
Military service (career)	Y	F	M
Musician (performer, composer)	Y	F	M
Nurse	Y	F	M
Optometrist	Y	F	M
Pharmacist	Y	F	M
Physician	Y	F	M
School counselor	Y	F	M
School principal or superintendent	Y	F	M
Scientific researcher	Y	F	M
Social worker	Y	F	M
Statistician	Y	F	M
Therapist (physical, occupational, speech)	Y	F	M
Teacher (elementary)	Y	F	M
Teacher (secondary)	Y	F	M
Veterinarian	Y	F	M
Writer or journalist	Y	F	M
Skilled trades	Y	F	M
Other	Y		
Undecided	Y		
Laborer (unskilled)		F	M
Semi-skilled worker		F	M
Other occupation		F	M
Unemployed		F	

22. Below is a list of 66 different undergraduate major fields grouped into general categories. Mark only three of the 66 fields as follows:

(1) First choice (your probable major field of study).
(2) Second choice.
(L) The field of study which is least appealing to you.

	1	2	L
ARTS AND HUMANITIES			
Architecture	1	2	L
English (literature)	1	2	L
Fine arts	1	2	L
History	1	2	L
Journalism (writing)	1	2	L
Language (modern)	1	2	L
Language (other)	1	2	L
Music	1	2	L
Philosophy	1	2	L
Speech and drama	1	2	L
Theology	1	2	L
Other	1	2	L
BIOLOGICAL SCIENCE			
Biology (general)	1	2	L
Biochemistry	1	2	L
Biophysics	1	2	L
Botany	1	2	L
Zoology	1	2	L
Other	1	2	L
BUSINESS			
Accounting	1	2	L
Business admin	1	2	L
Electronic data processing	1	2	L
Secretarial studies	1	2	L
Other	1	2	L
ENGINEERING			
Aeronautical	1	2	L
Civil	1	2	L
Chemical	1	2	L
Electrical	1	2	L
Industrial	1	2	L
Mechanical	1	2	L
Other	1	2	L
PHYSICAL SCIENCE			
Chemistry	1	2	L
Earth science	1	2	L
Mathematics	1	2	L
Physics	1	2	L
Statistics	1	2	L
Other	1	2	L
PROFESSIONAL			
Health Technology (medical, dental, laboratory)	1	2	L
Nursing	1	2	L
Pharmacy	1	2	L
Predentistry	1	2	L
Prelaw	1	2	L
Premedical	1	2	L
Preveterinary	1	2	L
Therapy (occupat., physical, speech)	1	2	L
Other	1	2	L
SOCIAL SCIENCE			
Anthropology	1	2	L
Economics	1	2	L
Education	1	2	L
History	1	2	L
Political science (government, int. relations)	1	2	L
Psychology	1	2	L
Social work	1	2	L
Sociology	1	2	L
Other	1	2	L
OTHER FIELDS			
Agriculture	1	2	L
Communications (radio, T.V., etc.)	1	2	L
Electronics (technology)	1	2	L
Forestry	1	2	L
Home economics	1	2	L
Industrial arts	1	2	L
Library science	1	2	L
Military science	1	2	L
Physical education and recreation	1	2	L
Other (technical)	1	2	L
Other (nontechnical)	1	2	L
Undecided	1	2	L

Please be sure that only three circles have been marked in the above list.

23. Below is a general list of things that students sometimes do. Indicate which of these things you did during the past year in school. If you engaged in an activity frequently, mark "F." If you engaged in an activity one or more times, but not frequently, mark "O" (occasionally). Mark "N" (not at all) if you have not performed the activity during the past year. (Mark one for each item)

	Frequently	Occasionally	Not at all
[illegible] in a student election	F	O	N
Came late to class	F	O	N
Played a musical instrument	F	O	N
Studied in the library	F	O	N
Checked out a book or journal from the school library	F	O	N
Arranged a date for another student	F	O	N
Overslept and missed a class or appointment	F	O	N
Typed a homework assignment	F	O	N
Discussed my future with my parents	F	O	N
Failed to complete a homework assignment on time	F	O	N
Argued with a teacher in class	F	O	N
Attended a religious service	F	O	N
Participated in a demonstration against the war in Viet Nam	F	O	N
Participated in a demonstration against racial discrimination	F	O	N
Participated in a demonstration against some administrative policy of my school	F	O	N
Did extra (unassigned) reading for a course	F	O	N
Took sleeping pills	F	O	N
Tutored another student	F	O	N
Played chess	F	O	N
Read poetry not connected with a course	F	O	N
Took a tranquilizing pill	F	O	N
[illegible]cussed religion	F	O	N
Took vitamins	F	O	N
Visited an art gallery or museum	F	O	N
Worked in a school political campaign	F	O	N
Worked in a local, state, or national political campaign	F	O	N
Missed school because of illness	F	O	N
Smoked cigarettes	F	O	N
Discussed politics	F	O	N
Drank beer	F	O	N
Discussed sports	F	O	N
Asked a teacher for advice after class	F	O	N
Had vocational counseling	F	O	N
Stayed up all night	F	O	N

24. Indicate the importance to you personally of the following persons or events in your decision to enroll in this college. (Mark one for each item)

	Major Influence	Minor Influence	Not Relevant
Parent or other relative	O	O	O
High school teacher or counselor	O	O	O
Friends attending this college	O	O	O
Graduate or other representative from this college	O	O	O
Professional counseling or college placement service	O	O	O
Athletic program of the college	O	O	O
[illegible]er extracurricular activities	O	O	O
Social life of the college	O	O	O
Opportunity to live away from home	O	O	O
Low cost	O	O	O
Academic reputation of the college	O	O	O
Most of the students are like me	O	O	O
Religious affiliation	O	O	O

25. Indicate the importance to you personally of each of the following: (Mark one for each item)

	Essential	Very Important	Somewhat Important	Not Important
Becoming accomplished in one of the performing arts (acting, dancing, etc.)	E	V	S	N
Becoming an authority on a special subject in my subject field	E	V	S	N
Obtaining recognition from my colleagues for contributions in my special field	E	V	S	N
Becoming an accomplished musician (performer or composer)	E	V	S	N
Becoming an expert in finance and commerce	E	V	S	N
Having administrative responsibility for the work of others	E	V	S	N
Being very well-off financially	E	V	S	N
Helping others who are in difficulty	E	V	S	N
Participating in an organization like the Peace Corps or Vista	E	V	S	N
Becoming an outstanding athlete	E	V	S	N
Becoming a community leader	E	V	S	N
Making a theoretical contribution to science	E	V	S	N
Writing original works (poems, novels, short stories, etc.)	E	V	S	N
Never being obligated to people	E	V	S	N
Creating artistic work (painting, sculpture, decorating, etc.)	E	V	S	N
Keeping up to date with political affairs	E	V	S	N
Being successful in a business of my own	E	V	S	N
Developing a meaningful philosophy of life	E	V	S	N

26. Mark one in each row: Agree strongly / Agree somewhat / Disagree somewhat / Disagree strongly

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly
Students should have a major role in specifying the college curriculum	O	O	O	O
Scientists should publish their findings regardless of the possible consequences	O	O	O	O
Realistically, an individual person can do little to bring about changes in our society	O	O	O	O
College officials have the right to regulate student behavior off campus	O	O	O	O
The chief benefit of a college education is that it increases one's earning power	O	O	O	O
Faculty promotions should be based in part on student evaluations	O	O	O	O
My beliefs and attitudes are similar to those of most other students	O	O	O	O
Student publications should be cleared by college officials	O	O	O	O
Marijuana should be legalized	O	O	O	O
Current levels of air pollution in large cities justify the use of drastic measures to limit the use of motor vehicles	O	O	O	O
Urban problems cannot be solved without huge investments of Federal money	O	O	O	O
Cigarette advertising should be outlawed on radio and TV	O	O	O	O
College officials have the right to ban persons with extreme views from speaking on campus	O	O	O	O
Only volunteers should serve in the armed forces	O	O	O	O
Students from disadvantaged social backgrounds should be given preferential treatment in college admissions	O	O	O	O
Most college officials have been too lax in dealing with student protests on campus	O	O	O	O

Aug st, 1972 FU of 1968 Freshmen

AMERICAN COUNCIL ON EDUCATION

Dear Member of our Survey Panel:

When you first entered college in 1968, you completed a brief information form that asked, among other things, about your educational and career plans. That was the first part of a nationwide survey to learn what happens to people after they enter college. Now, four years later, we are sending you a follow up form which we would appreciate your completing and returning in the enclosed envelope. We are interested in your responses even if you attended college for only a short time. The information you provide will be coded so that you will remain anonymous; it will be used for research purposes only, and your responses will be held in strict professional confidence. Since we are following up only a limited sample, your participation is very important. Thank you.

Sincerely yours,

Roger W. Heyns

Roger W. Heyns, President

SAMPLE ADDRESS
4555 W 77 ST
MPLS MN 55435

IF THERE ARE ANY ERRORS in your name and address as shown, please enter any changes in the spaces designated. →

Your Last Name | First Name | Init.

Street Address

City & State | Zip Code

Please Do Not Mark In This Space

1237895

DIRECTIONS: Your responses will be read by an automatic scanning device. Your careful observance of these few simple rules will be most appreciated:

- Use only black lead pencil (No. 2½ or softer).
- Make heavy marks that fill the circle completely.
- Erase cleanly any answer you wish to change.
- Make no stray markings of any kind.

EXAMPLE:
Will marks made with ball point pen or fountain pen be properly read?
Yes . . ○ No . . ●

1. For how many years did you attend college? Consider only the time that you were actually enrolled. (Please round to the nearest half-year)

- ○ ½ yr.
- ○ 1 yr.
- ○ 1½ yrs.
- ○ 2 yrs.
- ○ 2½ yrs.
- ○ 3 yrs.
- ○ 3½ yrs.
- ○ 4 yrs.

2. What is the highest degree you now hold and what are your future degree plans?
(Mark one in each column)

	Now hold	Plan to get before 1974	Plan to get between 1974 and 1976	Plan to get after 1976
	Ⓐ	Ⓑ	Ⓒ	Ⓓ
None	Ⓐ	Ⓑ	Ⓒ	Ⓓ
Associate (A.A. or equivalent)	Ⓐ	Ⓑ	Ⓒ	Ⓓ
Bachelor's degree (B.A., B.S., etc.)	Ⓐ	Ⓑ	Ⓒ	Ⓓ
Master's degree (M.A., M.S., etc.)	Ⓐ	Ⓑ	Ⓒ	Ⓓ
Ph.D. or Ed.D.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
M.D., D.O., D.D.S., or D.V.M.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
LL.B. or J.D. (Law)	Ⓐ	Ⓑ	Ⓒ	Ⓓ
B.D. or M.Div. (Divinity)	Ⓐ	Ⓑ	Ⓒ	Ⓓ
Other	Ⓐ	Ⓑ	Ⓒ	Ⓓ

3. What was your undergraduate grade-point average (computed on a four-point scale) for the entire time you attended college?
(Mark one in each column)

	Overall	In Major Subject
3.75–4.00 (A or A+)	○	○
3.25–3.74 (A- or B+)	○	○
2.75–3.24 (B)	○	○
2.25–2.74 (B- or C+)	○	○
1.75–2.24 (C)	○	○
1.25–1.74 (C- or D+)	○	○
Less than 1.25 (D or less)	○	○

4. Have you ever enrolled in a junior or community college?
Yes . . ○ No . . ○

If YES, mark one for each item below:

	Yes	No
Did you receive an A.A. or equivalent degree at a junior college?	○	○
Did you receive a certificate for completion of a nondegree program of study?	○	○
Did you ever transfer to a four-year college?	○	○

5. Before entering college in 1968, had you ever: (Mark one for each item)

	Yes	No
Held a full-time job for at least a year?	○	○
Served in the military?	○	○

6. Do you have a job this fall (after Sept. 15)? (Mark one)

- Yes — I have a part-time job this fall . . ○
- Yes — I have a full-time job this fall . . . ○
- No — I have been looking for a job, but I have received only unsatisfactory job offers . . . . . ○
- No — I have been looking for a job, but I have received no job offers . ○
- No — I have not been looking for a job (am a full-time student, homemaker, etc.) . . . . . ○

If YES, are you satisfied with:

	Yes	No
the salary or wages paid?	○	○
the type of job?	○	○

(Reminder: You should be marking your questionnaire with black lead pencil. THANK YOU.)

Please continue

7. Please indicate what you were doing during each of the following summers. (Mark as many as apply in each column)

I was:	1969	1970	1971	1972
Attending summer school (college or university)	O	O	O	O
Attending summer school (other than a college or university)	O	O	O	O
Working part time	O	O	O	O
Working full time	O	O	O	O
Unemployed, looking for a job	O	O	O	O
Unemployed, not looking for a job (e.g., was traveling, homemaking, etc.)	O	O	O	O

8. Please indicate which of the following applied to you at some time during each of the following academic years (September to June), and which you expect will apply to you in fall 1972.

(Mark as many as apply in each column)

	Sept. 1968–June 1969	Sept. 1969–June 1970	Sept. 1970–June 1971	Sept. 1971–June 1972	Fall 1972
Attending college, full time (undergraduate)	O	O	O	O	O
Attending college, part time (undergraduate)	O	O	O	O	O
Attending graduate or professional school	O	O	O	O	O
Interrupting college temporarily (illness, etc.)	O	O	O	O	O
Attending a school other than a college or university	O	O	O	O	O
Attending night school	O	O	O	O	O
Working while enrolled in college:					
Federally sponsored work-study program	O	O	O	O	O
Other on-campus work	O	O	O	O	O
Off-campus work	O	O	O	O	O
Employment for college credit as part of departmental program	O	O	O	O	O
Working part time while not enrolled in college	O	O	O	O	O
Working full time while not enrolled in college	O	O	O	O	O
Serving in military, active duty	O	O	O	O	O
Unemployed, looking for a job	O	O	O	O	O
Unemployed, not looking for a job (e.g., traveling, homemaking, etc.)	O	O	O	O	O

9. Where have you lived since entering college in 1968?

(Exclude vacations; if you lived several places during any year, indicate the place you lived the majority of the time.)

(Mark one in each column)

	1968–1969	1969–1970	1970–1971	1971–1972
With parents	O	O	O	O
Other private home, apartment or room	O	O	O	O
College dormitory	O	O	O	O
Fraternity or sorority house	O	O	O	O
Other student housing	O	O	O	O
Other	O	O	O	O

10. Below is a list of 68 different academic fields grouped into general categories. Mark only two of the 68 fields as follows:

(U) Current or last undergraduate major field of study
(G) Graduate major field (complete if you are enrolled, or plan to enroll, in graduate studies; otherwise, omit)

Arts and Humanities
- (U)(G) Architecture
- (U)(G) English (literature)
- (U)(G) Fine Arts
- (U)(G) History
- (U)(G) Journalism (writing)
- (U)(G) Language (modern)
- (U)(G) Language (other)
- (U)(G) Music
- (U)(G) Philosophy
- (U)(G) Speech and Drama
- (U)(G) Theology
- (U)(G) Other Arts and Humanities

Biological Science
- (U)(G) Biology (general)
- (U)(G) Biochemistry
- (U)(G) Biophysics
- (U)(G) Botany
- (U)(G) Zoology
- (U)(G) Other Biological Science

Business
- (U)(G) Accounting
- (U)(G) Business Admin.
- (U)(G) Electronic Data Processing
- (U)(G) Secretarial Studies
- (U)(G) Other Business

Engineering
- (U)(G) Aeronautical
- (U)(G) Civil
- (U)(G) Chemical
- (U)(G) Electrical
- (U)(G) Industrial
- (U)(G) Mechanical
- (U)(G) Other Engineering

Physical Science
- (U)(G) Chemistry
- (U)(G) Earth Science
- (U)(G) Mathematics
- (U)(G) Physics
- (U)(G) Statistics
- (U)(G) Other Physical Science

Professional
- (U)(G) Health Technology (medical, dental, laboratory)
- (U)(G) Nursing
- (U)(G) Pharmacy
- (U)(G) (Pre-)Dentistry
- (U)(G) (Pre-)Law
- (U)(G) (Pre-)Medical
- (U)(G) (Pre-)Veterinary
- (U)(G) Therapy (occupational, physical, speech)
- (U)(G) Other Profession

Social Science
- (U)(G) Anthropology
- (U)(G) Economics
- (U)(G) Education
- (U)(G) History
- (U)(G) Political Science (government, international relations)
- (U)(G) Psychology
- (U)(G) Social Work
- (U)(G) Sociology
- (U)(G) Other Social Science

Other Fields
- (U)(G) Agriculture
- (U)(G) Communications (radio, T.V., etc.)
- (U)(G) Computer Science
- (U)(G) Environmental Science
- (U)(G) Electronics (technology)
- (U)(G) Forestry
- (U)(G) Home Economics
- (U)(G) Industrial Arts
- (U)(G) Library Science
- (U)(G) Military Science
- (U)(G) Physical Education and Recreation
- (U)(G) Other (technical)
- (U)(G) Other (nontechnical)
- (U)(G) Undecided

Please be sure that only one circle in each column has been marked in the above list.

11. What is your overall evaluation of your undergraduate college (the one most recently attended)? (Mark one)

- Very satisfied with my college . . . ○
- Satisfied with my college . . . . . ○
- On the fence . . . . . ○
- Dissatisfied with my college . . . . ○
- Very dissatisfied with my college . ○

12. Are you: (Mark all that apply)

- White/Caucasian . . . . . ○
- Black/Negro/Afro-American . . . . ○
- American Indian . . . . . ○
- Oriental . . . . . ○
- Mexican-American/Chicano. . . . . ○
- Puerto Rican-American . . . . . ○
- Other . . . . . ○

13. Have you ever been married? (Mark one)

- No . . . . . ○
- Yes, I was married:
  - before entering college in 1968 . ○
  - while in college . . . . . ○
  - after college . . . . . ○

14. How many children do you have?

None . . . ○ Two . . . . . ○
One . . . . ○ Three or more ○

15. If you ever dropped out of college, either temporarily or permanently, please answer this question; otherwise, skip to item 16.

What were your main reasons for leaving college before graduating? Do not mark more than three.

- Disciplinary troubles . . . . . ○
- Illness or accident . . . . . ○
- Marriage, pregnancy, or other family responsibilities . . . . . ○
- Boredom with courses . . . . . ○
- Dissatisfaction with requirements, regulations ○
- Inability to take desired courses or program . ○
- Difficulty commuting to college . . . . . ○
- Poor grades . . . . . ○
- Financial difficulties. . . . . ○
- Good job offer . . . . . ○
- Change in career goals . . . . . ○
- Some other reason . . . . . ○

16. Which of the following have you done since entering college in 1968? (Mark all that apply)

- Attended more than one undergraduate college ○
- Participated in an honors program . . . . . ○
- Was put on academic probation . . . . . ○
- Failed one or more courses . . . . . ○
- Graduated with honors . . . . . ○
- Finished my undergraduate work in three years ○

16. (Continued) (Mark all that apply)

- Received credit for a college course by examination rather than by taking the course . . . ○
- Traveled or lived abroad . . . . . ○
- Studied abroad for a term or longer . . . . . ○
- Was elected to a student office. . . . . ○
- Joined a social fraternity, sorority, or club. . ○
- Was elected to an academic honor society. . . ○
- Was elected to a leadership or service honorary society . . . . . ○
- Played on a varsity athletic team . . . . . ○
- Worked on the school paper or magazine . . . ○
- Was a member of the choir or glee club . . . . ○
- Was a member of the band . . . . . ○
- Had a major part in a college play . . . . . ○
- Participated in ROTC . . . . . ○
- Was a member of a student-faculty committee ○
- Smoked cigarettes regularly. . . . . ○
- Drank beer . . . . . ○
- Worked in a school political campaign . . . . ○
- Worked in a local, state, or national political campaign . . . . . ○
- Participated in student protests or demonstrations . . . . . ○
- Was a dormitory counselor . . . . . ○
- Visited home at least once a month . . . . . ○

NOTE: If you ever held a job while enrolled in college (other than summers), please answer items 17 through 22. Otherwise, skip to item 23.

17. Which of the following types of jobs have you held for more than a month while attending college?

	Job Held Longest (Mark one only)	Other Jobs Held (Mark as many as apply)
Teaching or research assistant to a professor	○	○
Work in some other academic-related department on campus (e.g., library, administration)	○	○
Work in nonacademic sector of the campus (e.g., cafeteria, dorm)	○	○
Work off campus in area related to coursework	○	○
Work off campus in area not related to coursework	○	○

18. For what length of time did you work at the job you held the longest while in college? (Please round to the nearest half-year)

⅛ yr. . ○ 1⅛ yrs. . . ○ 2⅛ yrs. . . ○ 3⅛ yrs. . . ○
1 yr. . . ○ 2 yrs. . . . ○ 3 yrs. . . . ○ 4 yrs. . . . ○

19. Indicate whether holding a job while enrolled in college was beneficial, detrimental, or made no difference to each of the following: (Mark one for each item)

	Beneficial	Detrimental	No Difference
Doing well in my academic studies	○	○	○
Participating in campus extracurricular activities	○	○	○
Having a satisfactory social life	○	○	○
Meeting a wide variety of people	○	○	○
Preparing for a future career	○	○	○
Gaining maturity and responsibility	○	○	○
Continuing in college	○	○	○

20. Consider the job which you held the longest while attending college. Did you enjoy the kind of work you did on this job? (Mark one)

- No, I hated the work . . . . . ○
- No, I rather disliked it. . . . . ○
- I had no feelings about it . . . . . ○
- Yes, I rather liked it . . . . . ○
- Yes, I enjoyed it very much. . . . . ○

21. How well did your job during college fit in with your long-range career plans? (If you held more than one job during college, consider the job that you held the longest.) (Mark one)

- Very well . . . . . ○
- Fairly well . . . . . ○
- Hardly at all . . . . . ○
- Not at all . . . . . ○
- I have no long-range career plans . . ○

22. Approximately how many hours per week did you normally work when employed during the academic year? (If hours per week varied by job or by year, please mark the nearest estimate of the average number of hours worked per week during the years you were employed while in college.)

Less than 5 . . . ○ 15–19 . . . . . ○
5–9 . . . . . ○ 20–24 . . . . . ○
10–14 . . . . . ○ 25 or more . . . . ○

23. What is:

Ⓐ Your expected occupation for this fall?

Ⓑ Your probable long-range career?

(Mark one in each column)

	Ⓐ	Ⓑ
Accountant or actuary	Ⓐ	Ⓑ
Actor or entertainer	Ⓐ	Ⓑ
Architect	Ⓐ	Ⓑ
Artist	Ⓐ	Ⓑ
Business (clerical)	Ⓐ	Ⓑ
Business executive (manager, administrator)	Ⓐ	Ⓑ
Business owner or proprietor	Ⓐ	Ⓑ
Business salesman or buyer	Ⓐ	Ⓑ
Clergyman (rabbi, minister, priest)	Ⓐ	Ⓑ
Clergy (other religious)	Ⓐ	Ⓑ
Clinical psychologist	Ⓐ	Ⓑ
College teacher	Ⓐ	Ⓑ
Computer programmer	Ⓐ	Ⓑ
Conservationist or forester	Ⓐ	Ⓑ
Dentist (including orthodontist)	Ⓐ	Ⓑ
Dietitian or home economist	Ⓐ	Ⓑ
Engineer	Ⓐ	Ⓑ
Farmer or rancher	Ⓐ	Ⓑ
Foreign service worker (including diplomat)	Ⓐ	Ⓑ
Homemaker (full-time)	Ⓐ	Ⓑ
Interior decorator (including designer)	Ⓐ	Ⓑ
Interpreter (translator)	Ⓐ	Ⓑ
Lab technician or hygienist	Ⓐ	Ⓑ
Law enforcement officer	Ⓐ	Ⓑ
Lawyer (attorney)	Ⓐ	Ⓑ
Military serviceman (career)	Ⓐ	Ⓑ
Musician (performer, composer)	Ⓐ	Ⓑ
Nurse	Ⓐ	Ⓑ
Optometrist	Ⓐ	Ⓑ
Pharmacist	Ⓐ	Ⓑ
Physician	Ⓐ	Ⓑ
School counselor	Ⓐ	Ⓑ
School principal/superintendent	Ⓐ	Ⓑ
Scientific researcher	Ⓐ	Ⓑ
Social worker	Ⓐ	Ⓑ
Statistician	Ⓐ	Ⓑ
Therapist (physical, occupational, speech)	Ⓐ	Ⓑ
Teacher (elementary)	Ⓐ	Ⓑ
Teacher (secondary)	Ⓐ	Ⓑ
Veterinarian	Ⓐ	Ⓑ
Writer or journalist	Ⓐ	Ⓑ
Skilled trades	Ⓐ	Ⓑ
Other	Ⓐ	Ⓑ
Undecided	Ⓐ	Ⓑ
Student (full-time)	Ⓐ	

Please be sure that only one circle in each column has been marked in the above list.

24. How important are each of the following reasons for your long-range career choice?
(Mark one in each row)

	Very Important	Somewhat Important	Not Important
Job openings are generally available	Ⓥ	Ⓢ	Ⓝ
It is a well-paying career	Ⓥ	Ⓢ	Ⓝ
It will enable me to make an important contribution to society	Ⓥ	Ⓢ	Ⓝ
I enjoy helping people	Ⓥ	Ⓢ	Ⓝ
I enjoy working with ideas	Ⓥ	Ⓢ	Ⓝ
I enjoy working with my hands	Ⓥ	Ⓢ	Ⓝ
It provides opportunities for self-expression	Ⓥ	Ⓢ	Ⓝ
It has high prestige	Ⓥ	Ⓢ	Ⓝ
It provides opportunities for independence	Ⓥ	Ⓢ	Ⓝ
Rapid career advancement is possible	Ⓥ	Ⓢ	Ⓝ
It will provide a stable future	Ⓥ	Ⓢ	Ⓝ

25. Which of the following apply to your present financial situation? (Mark all that apply)

- I have major expenses or debts for my education ○
- I have major expenses or debts for my spouse's education ○
- I have other large debts (not educational) ○
- I have no large debts ○
- I contribute to the support of my parent(s) or members of my parental family ○
- I have large health or medical expenses on a continuing basis ○
- I have large health or medical expenses, not expected to continue ○
- I am firmly opposed to borrowing money for anything other than a real emergency ○

26. What is the name of your current (or most recently attended) undergraduate college?

(Please do not write outside designated area)

name

city & state

27. If you are now attending graduate or professional school (or will be next year), what is the name of the college?

name

city & state

28. For each item below, indicate the extent to which it has been a source for financing your undergraduate education (include costs for both academic and living expenses). (Mark one in each row)

	Major Source (50%+)	Minor Source	Not a Source
Support from parents or relatives	○	○	○
Support from spouse	○	○	○
Fellowships, scholarships:			
Federal government	○	○	○
State government	○	○	○
School or university	○	○	○
Private foundations, organizations	○	○	○
Industry or business	○	○	○
Other fellowships, scholarships	○	○	○
Loans:			
Federal government loans	○	○	○
State government loans	○	○	○
Commercial loans (banks, etc.)	○	○	○
Other loans	○	○	○
Employment while in college:			
Federally sponsored college work-study program	○	○	○
Other employment during acad. year	○	○	○
Summer employment	○	○	○
Employment during a leave of absence from school for one or more terms	○	○	○
Withdrawals from savings, assets	○	○	○
G.I. benefits	○	○	○
ROTC benefits	○	○	○
Other sources	○	○	○

29. The above sources may be grouped into the following general categories of sources for financing your undergraduate education (academic and living expenses). Please give your best estimate of the amount of income received from each of these sources.
(Fill in a dollar amount for each item or leave blank if not a source)

Support from parents or other family _____

Fellowships or scholarships _____

Loans _____

Employment _____

Other sources _____

THANK YOU FOR YOUR COOPERATION

Please return the questionnaire in the postage-paid, self-addressed envelope to:

Intran Processing Center, 4555 West 77th Street, Minneapolis, Minnesota 55435